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AUTHOR Pulliam, Katherine H.
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ABSTRACT

A literature review on developmentally appropriate practices in kindergarten and remedies for inappropriate practices was conducted. The review resulted in four sets of annotated references: (1) a total of 18 annotations concerning factors influencing the developmental point of view; (2) a total of 14 annotations dealing with the effects of inappropriate kindergarten practices; (3) a total of 23 annotations focusing on possible remedies to problems caused by inappropriate practices; and (4) a total of 20 annotations concerning ways in which a developmentally appropriate kindergarten program can benefit all children. A summary of findings from the research follows the annotated citations. It is concluded that too many kindergartners are being categorized as failures as a result of inappropriate practices. Six general recommendations for appropriate practices are offered. (RH)

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AN ANNOTATED BIBLIOGRAPHY OF THE IMPORTANCE OF DEVELOPMENTALLY APPROPRIATE PRACTICES IN TODAY'S KINDERGARTENS

by

Katherine H. Pulliam

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Study directed by

Charles R. DuVall, Ph.D.

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INTRODUCTION

There appears to be a growing interest in early childhood education in all parts of the country today. Early childhood educators subscribe to the premise, based on research, that a child must reach a certain stage of development before he can learn successfully. (DiPasquale, Moule, and Flewelling 1980) Kindergarten practices in many public and private schools do not reflect this knowledge. The developmental point of view sees the physical, social, emotional and intellectual growth of a child as interrelated. (May and Welch 1984) Integrated experiences across the curriculum should offer a child opportunities for learning at his own developmental level. Hurrying academics before he is ready for them can cause stress in a kindergartner. (Gesell Institute 1982)

David Elkind, in The Hurried Child, along with other leaders in the field of early childhood education today, forewarned us of the long-term repercussions of too much, too soon. Earlier is not better. Just because a child "can" do something does not mean that he necessarily "should" do it.

Social economic and political forces have caused a downward trend in formal academic instruction. For children to learn effectively, teachers must use materials and methods that are closely aligned with their students' cognitive abilities. (Epstein 1981) Kindergarten children need activities that include play and language to successfully help them to grow and learn, and the program has to be appropriate to their different developmental stages. (Seefeldt 1985)

Parents, teachers, and education policy-makers must come to an

agreement and understanding of just what is developmentally appropriate for kindergarten-aged children. Their main goal must be directed toward the quality of programs that best serve the needs of the most children. (Meisels 1987)

One of the benefits of a developmentally appropriate kindergarten is that of building individual self-esteem where the atmosphere is cooperative, not so competitive, and that makes it a more positive experience for children of all levels. (Connell 1987) Every child has a right to "be a child" and a right to a kindergarten experience that will give him a lifelong love for learning.

STATEMENT OF THE PROBLEM

A large number of children in kindergartens today are confronted with academic work before they are developmentally ready. The possibility of putting them at risk for stress and failure exists. (Elkind 1988) Unfortunately, early childhood educators who know better, have acquiesced to economic, political and social pressures for a downward shift in formal instruction. Most young children do not learn in the same ways as older children. Programs must be designed that meet the developmental needs of all of the children enrolled.

PURPOSE OF THE STUDY

The purpose of the study was to review the literature available on developmentally appropriate practices in today's kindergartens, as well as possible remedies to inappropriate practices. It was hoped that reviewers

of the study would have a better understanding of the diverse learning abilities and levels of development of kindergarten children and the importance of meeting those needs in ways that enhance rather than hinder. It was also hoped that this awareness would prompt educators to speak out for quality kindergarten education that is geared toward helping each child to go as far as he is able.

ORGANIZATION OF THE STUDY

The study is organized into four major sections. The first one deals with factors that influence the developmental point of view. The focus of the next major section is the effects of practices that are inappropriate for some kindergarten children. Possible remedies to the problem, some that work better than others, are reviewed in part three. Part four will show how a developmentally appropriate kindergarten program can benefit all children regardless of their ability or developmental level.

LIMITATIONS OF THE STUDY

There was a great deal of research and informed opinion connected with developmental appropriateness in the kindergarten. The investigation of all related data was restricted by a time limitation as well as the unavailability of several resources. Support for optimal development for all children was confirmed. This study is not exhaustive and further reading in this area will continue with the expectation of finding more of the same.

GLOSSARY

academic approach - - "a method of teaching which emphasizes intellectual achievement, usually subject-centered with formal and/or direct instruction using workbooks, drill and practice" (Katz, 1987 1-2)

adaptation - - "any beneficial changes to meet environmental demand" (Good, 58)

articulation - - "the organization of classroom instruction, cocurricular activities, and other interdependent and interrelated services of a school system so as to facilitate the continuous and efficient educational progress of students from grade to grade and from school to school" (Good, 42)

child-centered - - "theory or practice where the pupil, his experiences, backgrounds and interests, not the knowledge to be covered, is the main focus of attention. Places an emphasis on the affective rather than the cognitive aspects of teaching and learning" (Page, 63)

chronological age - - "individual's actual physical age expressed in terms of years and months" (Page, 65)

cognitive development - - "increasing complexity of awareness, including perceiving, conceiving, reasoning and judging, through adaptation to the environment and assimilation of information" (Houston, 37)

curriculum-centered - - "classroom activities displaying a pattern of instruction which seeks to promote learning through cooperative group activities" (Good, 158)

development - - "a total process through which children continually adapt to their environment and organize their experiences. Resulting personal and cognitive structures are a synthesis of old and new experiences" (Georgia State Handbook for Early Childhood Educators, K-4, 1982)

developmental age - - "the age at which a child is behaving as a total organism - a functioning age. A child might very well be functioning at a six - or even a seven-year-old level intellectually or in some other aspect of his development, but a composite of his WHOLE development might place him at a five-year-old functioning age. Developmental age is the age where a child sustains - where he is 'grounded'" (Carli, 2)

developmental approach - - "a method of teaching which takes into account what children can do at any given age or stage in addition to the sequence of learnings that are most effective for later functioning" (Katz, 1987, 1)

dispositions - - "relatively enduring 'habits of mind', or characteristic ways of responding to categories of experience across types of situations. Examples: curiosity, humor, creativity, affability, and quarrelsomeness" (Katz, 1986, 6)

growth - - "growth is used synonomously with development. It means progress in emotional stability, intellectual maturity, and social competence as well as physical growth. Perhaps most importantly, it means advancement of the integration process - advancement in differentiation - an increase in complexity of function" (Carli, 2)

kindergarten - - "an educational setup or section of a school system, devoted to the education of small children, usually from 4 to 6 years of age; characterized by organized play activities having educational, socializing values, by opportunities for self-expression and training in how to work and live together harmoniously and by an environment, materials, curriculum, and program carefully selected to provide for child growth and development" (Good, 324)

language experience approach - - "an integrated language arts program which builds upon the interrelationship between and among reading and the related language arts of writing, speaking, and listening; use is made of individual and group compositons as reading materials" (Good, 329)

maturation - - "the process by which each child 'unfolds' according to his own biological time table; the process is controlled chiefly by genetic and constitutional factors" (Carli, 2)

overplacement - - "being in over one's head - being in a school situation which is causing strain to the organism" (Carli, 2)

Piagetian theory - - Jean Piaget, Swiss psychologist's theory of children's intellectual development which describes a universal sequence of 4 distinct mental stages: sensorimotor, preoperational thought, concrete operations, formal operations. Children progress through these from birth to maturity" (Houston, 179)

play - - "any pleasurable activity carried on for its own sake, without reference to ulterior purpose or future satisfactions" (Good, 426)

pre-first-grade - - "a learning environment for children who are six years old chronologically, but younger in total development. Often a grade between kindergarten and grade one. Sometimes called Readiness Room, Transistion Room, Pre-Primary, or Level I" (Carll, 2)

readiness curriculum - - "a program planned to meet the developmental needs of children through broadened experiences, with the introduction of academic skills at the most teachable time" (Good, 160)

readiness program - - "a change in the traditional school organization whereby children are placed in first grade by their developmental age rather than their chronological age. Provision is usually made for those children who are young in development to have a Pre-First-Grade program" (Carll, 2)

school readiness - - "ability to cope with school environment, physically, socially, and emotionally, as well as academically without undue stress and to sustain in that environment" (Carll, 2)

school success - - "achievement without undue stress. Learning with enough spirit and energy left over to devlop into a well-integrated person" (Carll, 2)

semiotics - - "the study of signs and sign systems in order to analyze how meaning is conveyed" (Crenshaw, 3)

seriation - - "process of putting unorganized information into the form of a statistical series" (Page, 309)

skewed development - - "lopsided, distorted development. Usually caused by pushing one aspect of development ahead of the others; for instance, pushing intellectual growth with little regard for the child's physical, emotional, and social growth. This results in an out-of-balance person" (Carli, 2)

skills - - "relatively small units of action or behavior that are easily observed, including mental skills that are easily inferred from such behaviors" (Katz, 1986, 5-6)

social interactions - - "mutual stimulation of one person by anotner and the responses that result" (Good, 11)

socialization - - "the process of bringing the individual, particularly the child, to understand and accept the customs, standards, traditions, and culture of the group of which he is a member and to cooperate actively with that group" (Good, 542)

splintered skill - - "an isolated skill which is not an integral part of development. A skill which is not transferable to other learnings, which can not be used to build on. For instance, a child who is not developmentally ready to draw a triangle can be taught to do this by connecting dots. However, he will not be able to transfer this learning to either his painting or his execution of the letter A" (Carli, 2)

transition group - - "(1) a group of children who have been in kindergarten for a year but are not yet ready for reading and who therefore are given enriching experiences for a period of time until they are ready to enter first grade and undertake beginning reading; (2) a junior first-grade class for children who have outgrown the kindergarten activities but who apparently are not ready for regular first grade work" (Good, 622)

transitivity - - "carry-over or generalization of learned responses from one type of situation to another" (Gove, 7427)

GENERAL INFORMATION

Elkind, David. "Formal Education and Early Childhood Education: An Essential Difference" Phi Delta Kappan 67.9 (1986): 631-636.

Elkind found that educational strategies designed for school-age children were inappropriate for younger children. Child development experts such as Montessori and Piaget concurred that formal education was too symbolic for kindergarten age children. Learning that involved the child in broadening his experiences within his own frame of reference was best. Elkind observed that these issues were not being addressed. The most successful educational programs were those that adapted to the needs of the students. Social, political, and economic influences directed the downward trend of academics. Advances in technology advanced what young children could do, but it did not change their capabilities. Early formal education put too much pressure on young children. Some children lost their self-motivation and became too dependent on adults to tell them what to do next. Maturation was a significant factor in the development of self-confidence in young children. Too many teacher-directed activities undermined their self-esteem. Piaget stated that children need to "reflect" on the things they were learning. There was little room or time for reflection in formal instructional designs. Elkind concluded that early education programs seemed to be geared to meeting the needs and priorities of adults rather than those of the children.

Elkind, David. "In Defense of Early Childhood Education." Principal 65.5 (1986):6-9.

Elkind argued that young children needed to make sense of their world through concrete experiences. Formal education proponents ignored this fact. The most sound education for young children was appropriate to their unique way of thinking and learning. Technology made great advances in accessible information but did nothing to increase mental development. Elkind suggested that technology had contributed to the decline of some sensory and motor abilities that were not used as much. Montessori and Piaget both supported the provision of appropriate learning materials suited to and sensitive to the needs of young children. Elkind also maintained the importance of activities designed to meet the child's priorities. Early childhood programs that appreciated and supported these ideals were the most effective. Those programs promoted a sense of security for children and parents and had an open-minded philosophy about young children's learning styles. Early intervention programs and academic exposure in preschools had not been found to give any long-range advantages.

Elkind, David. "Educating the Very Young: A Call for Clear Thinking," NEA Today 6.6 (1988): 22-27.

Dr. Elkind stated that parents as well as some administrators and teachers were not as well informed about early childhood education as they should have been. Early childhood education was never meant to be early formal academics. Starting formal education too soon has already been found to be more damaging than beneficial. Even parents of gifted children, when surveyed, recommended an emphasis on play and an environment providing many choices of activities as opposed to formal instruction. "To put children at risk for short term stress and long-term learning problems -- for no purpose" was what Elkind called "miseducation". The task of schools was never designed to solve the problems of the societies they served. They have helped in many important ways, but the answer was never theirs alone. Developmentally appropriate kindergartens where children could learn in a variety of ways were expected to provide an opportunity for children to exercise the learning skills they already had and build on them. Certain academic skills forced upon them too soon only resulted in frustration and feelings of inadequacy. Elkind had observed that children learned best through direct interaction with people and things in their environment and that they were learning in more ways than one isolated method or style. Only about one to three children out of 100 pre-schoolers showed a real readiness for reading and these were the ones who taught themselves to read with no formal instruction from adults. From his observations, he saw that play was important as a way of promoting both self-esteem and competence. Attempts to transform child's play into structured lessons have never worked! Organization of an effective kindergarten program provided activities of interest to five year olds with lots of manipulation and always guidance rather than direct instruction from the teacher. The ideal teacher-child ratio was 1 to 15. Kindergarten was never supposed to be the downward extension of elementary education.

Sava, Samuel G. "Developmentally Appropriate Education for Preschoolers." Press conference statement. National Association of Elementary School Principals. Washington, D.C., 1986.

Sava related a 15% increase in enrollment from 70% to 95% of kindergartners in formal programs in the last 15 years. This reflected parental beliefs that young children would benefit from programs designed specifically for their developmental stages. Unfortunately some parents believed academics should be introduced early-on to give their children an "edge" on formal schooling. Sava reported that these parents and others needed to understand that "play is learning" and the most effective programs encouraged experiences that gave children a chance to explore and learn without being afraid of failing. Encouraging young children's natural interests and building on them helped to build confidence and instill a motivation and love for learning. The recent practice of dictating formal education practices in kindergarten forced situations that put children at risk of failure.

Katz, Lilian G. "Current Perspectives on Child Development." Council for Research in Music Education Bulletin 86 (1986): 1-9.

Dr. Katz stated that what we have gained from studying the ways in which children grow and change should have helped us to enhance their development. Understanding developmental appropriateness for certain age groups has had some effect on early childhood teaching styles and curriculum planning. Studies revealed that children showed certain behaviors at about the same ages and that these behaviors came and went during various stages but the growth was nearly always from simple to more complex. When young children failed to satisfy the expectations of adults, they experienced long-term repercussions. Data revealed that developmental achievements progressed in proportion to the factors that influenced them only at the "right" time in the "right" amount. Too much too soon was more damaging than beneficial. Implications were for an instructional design that would "fit" each individual child's needs. Motivation, effort and achievement were all increased when the child had a chance to choose an activity that interested him. Too many choices proved to be ineffective as too few. Dr. Katz pointed out a "recursive cycle" in children's social and intellectual development in which behaviors increased in proportion to the amount and intensity of reactions to that behavior.

Gardner, Randolyn Kay. "A Kindergarten Survey: Highlights from Kindergarten Programs and Practices in Public Schools." Educational Research Service in Principal 65.5 (1986): 22-23.

Six of every 100 schools that had a kindergarten program were selected for this nationwide survey. Thirty-six percent of the teachers and 41% of the principals contacted responded to the survey. Principals ranked social development as the highest priority for kindergartens at 82%. Language development came in next highest at 80%. Only 22% stated that academics were the primary focus of their kindergarten programs while 62% reported that preparation for academic and social readiness was their main focus. Only 8% reported a developmental focus. Seventeen percent had transitional programs for children who were "not ready", and 8% reported a multi-age grouping practice. Over half had kindergarten screening programs with a broad spectrum of instruments being used. Eighteen percent taught skills for reading to all students, while 50% taught reading skills only for those children who were ready. Close to 30% taught preparation skills for reading to all children and kept reading instruction as a first grade program. It appeared that current practices in public kindergartens were quite varied across the country. Implications were that a greater consistency would be more beneficial to the children.

BIRTHDATE EFFECT

Diamond, Grace H. "The Birthdate Effect--A Maturational Effect?" Journal of Learning Disabilities 16.3 (1983): 161-164.

This study was conducted to compare the numbers of children labeled learning disabled with their months of birth. There were over 150,000 Hawaiian school children under consideration. Data were collected for sex, birth date and handicapping condition. The number of children considered learning disabled increased as their birth dates came later in the year. This suggested some level of immaturity and the real possibility of mislabeling these children as learning disabled. Although more boys seemed to be referred than girls, both groups had similar percentages of increase in numbers as their birthdays came later in the year. Simply stated, the figures revealed about half as many January-born referals as December-born. One of the real dangers in relying on these early judgments was the effect on teacher expectations. Also, once a child was referred, even though they might improve with age, the learning disabled classification stayed with them indefinitely. There was also some consideration given to the socioeconomic levels and prenatal care of the subjects reviewed.

DiPasquale, Glenn W., Allan D. Moule, and Robert W. Flewelling. "The Birthdate Effect." Journal of Learning Disabilities 13.5 (1980): 234-238.

This study was conducted to find out if children with late birthdays had more difficulty in school than those with earlier birth dates. Data were obtained from referrals for psychological assessment in York County, Ontario, Canada. Of the 552 children in grades kindergarten through 13, 390 were boys and 162 were girls. There was a fairly equal distribution among grade levels, averaging about 52. Referrals for children in first grade occurred about twice as often as for other grades. Academic problems accounted for 434 referrals, while the remaining 118 were for social, emotional or behavioral problems. Analyses were made according to birth dates; school-age categories (primary, kindergarten-grade 3; junior, grades 4 to 6; intermediate/senior, grades 7 to 13); reasons for referral; and sex differences. It was found that children with later birthdays were having more problems in school than those born earlier in the year. Implications were that some children are not ready for first grade work just because of their chronological age. Developmental abilities varied widely within a single age group and something needed to be done to address this issue.

DEVELOPMENTAL DIFFERENCES

Pipitone, Salvatore A. "Longitudinal Study of the Developmental Kindergarten Program in the Glen Cove City School District." Resources in Education, 1986. ED 276 500

This study was conducted to compare children diagnosed as needing special programs with those who did not. Eighty-one children out of 475 were screened and tested as developmentally immature and were placed in a developmental kindergarten program. Areas of concern were identified as language, visual discrimination and difficulty in the physical environment. Children in the developmental program received remediation in basic skill areas, and special support services to help prepare them for a traditional classroom setting. Diagnostic screening measures and standardized test scores were compared for both groups indicating significant differences in reading and math scores. The point was made that there were significant differences in children's ability levels at the time of initial screening. Results showed that the developmental differences did not disappear with time giving support to the premise that children should have programs that are designed to meet their developmental needs.

Morado, Carolyn. "Kindergarten Alternatives for the Child Who Is 'Not Ready': Problems and Policy Issues." Resources in Education, 1987. ED 282 644

Approximately one-third of the school districts in Michigan had some type of developmental program for children who were "not ready" for the regular kindergarten program in 1985. This study was conducted to review this alternative practice and determine some guidelines. Nearly 80% of the Michigan schools used a single screening test to determine eligibility for the developmental programs. The remaining schools gave another test after the initial identification. Screening times extended from March through June. Those administering the screening ranged from kindergarten teachers, special education teachers, administrators, elementary teachers, to gym, music and art teachers, reading clinicians, teacher aides, and parent volunteers. The Gesell readiness test was used most often, followed by locally developed tests and several commercial tests. Only 6% of the schools re-tested at the end of the developmental year to determine placement. Most children were automatically placed in regular kindergarten after their year in the developmental program. Teacher ratings and expectations were lower for those involved in the developmental programs. Those children who were "ready" were given a more academic program. Social competence was seen by the teachers as directly related to readiness. Results of this survey indicated that in Michigan, the trend was to add another year for children who were "not ready", rather than revise the regular kindergarten program to meet the developmental needs of the children they served. Morado expressed concern that if the trend continued growing as it had in the past, more and more Michigan children would be labeled "not ready" for the general kindergarten programs.

Brinthaupt, Thomas M. and Richard P. Lipka. "Developmental Differences in Self-concept and Self-esteem among Kindergarten through Twelfth-grade Students." Child Study Journal 15.3 (1985): 207-221.

Since self-concept was considered to cause certain behaviors and be affected by experience, as in a classroom setting, this study examined its developmental aspects. Interviews were conducted with 30-50 students at each grade level, K-12. Younger children generally described themselves by their family, by what they owned, and how they looked. As older children were questioned their descriptions became more abstract. Older children focued on their activities and later, on their beliefs. Positive self-esteem was identified by the subjects' satisfaction with what they described about themselves. When they indicated a desire to "change", this was considered a negative self-esteem. Younger children seemed to use obvious, visible descriptions, while older children were more private and reflective. Responses indicated that girls were more "mature" than boys at all levels. Kindergartners also described themselves by things that they could do and by things that they liked. As children grew older their answers involved more interaction with others as part of their description. The results had implications for teachers in curriculum planning.

Miller, Kevin and Rochel Gelman. "The Child's Representation of Number: A Multidimensional Scaling Analysis." Resources in Education, August, 1982. ED 221-271

The main purpose of this paper was to describe the development of young children's conceptions of numbers. Kindergartners, third graders, sixth graders and adults were asked to compare numbers in several different arrangements. Kindergartners displayed mastery of the concept of "greater than" in comparing numbers. They increased their concept development of similarity between numbers in a "gradual" learning mode. Implications were that expecting children to perform numerical tasks they were not developmentally ready to perform was setting them up for possible failure. As children were exposed to a growing body of numerical relationships, they were able to expand their knowledge of numbers just so long as too much was not thrown at them at one time or too early. Implications were that teachers needed to be aware of children's number understanding so that they could plan for each child's success. In a further study, kindergartners were found to use counting distance between numbers as a basis for finding similarities or differences.

COGNITIVE DEVELOPMENT

Bornstein, Marc H., and Joan Stiles-Davis. "Discrimination and Memory for Symmetry in Young Children." Developmental Psychology 20.4 (1984): 637-649.

Three studies were conducted to determine the visual perception of symmetry in kindergarten-age children. Discrimination, reproduction and memory tasks were designed with increasing complexity to test the children. These kinds of tasks had been used in preparing young children for reading. In the first experiment, 72 children were assessed for visual perception of symmetry with performance results indicating a developmental progression of accuracy with age. In the second experiment, eighteen children from the oldest group were tested with a more complex discrimination task. Their performance was comparable to that of the youngest children in the first test. The identification process revealed that vertical symmetry, then horizontal, and finally oblique was the order of children's recognition. The final experiment focused on memory of visual perceptions for eighteen children representing four, five and six year olds. Patterns were better for the older children than the younger ones. Perceptually, symmetry required a higher level of thinking and helped children in developing both discrimination and memory skills.

Nisan, Mordecai and Asher Koriat. "The Effect of Cognitive Restructuring on Delay of Gratification." Child Development 55.2 (1984): 492-503.

This study examined kindergarten children's behaviors in a delay of gratification situation and the possibility of restructuring those behaviors through verbal interaction. Eighty-two 5-6 year olds in five different middle-class kindergartens were divided into three groups and each child was interviewed individually for two separate experiments. A cognitive-developmental approach was utilized. Nisan and Koriat judged the younger children's preference for immediate rewards as a result of limited understanding or lack of experience in delayed reward situations. They concluded that some of the kindergarten children's cognitive skills were insufficiently developed to give them the ability to apply re-thinking and reevaluation to the dilemma. Outside assistance in the form of presenting the child with verbal accounts of others' choices proved to be a positive motivator in getting a child to reconsider and go for the delayed reward. It also promoted higher level thinking on the child's part thus implying cognitive growth enhancement. Final indications revealed a more advanced developmental stage as a direct result of the questioning of the children's choices.

ATTENTION SPAN

Day, Barbara, and Kay N. Drake. "Developmental and Experiential Programs: The Key to Quality Education and Care of Young Children." Educational Leadership 44.3 (1986): 25-27.

Day and Drake studied on-task behavior and where this behavior occurred most often in several types of early childhood classroom environments. Eighteen kindergarten and first grade classrooms were observed. These were classified into five different categories for evaluation purposes. Percentages ranged from a low of 78% for some of the five year olds to a high of 92% in classes where five and six year olds were grouped together. Differences were attributed to the instructional programs which were described as more geared toward simple group activities and seatwork for the lower percentages and more complex arrangements with learning centers and management contracts in the higher percentages. Learning centers appeared to produce higher on-task behavior rates than did seatwork activities. When presented with reading center tasks that were too difficult, some five-year-olds rates declined to 29%; while some of the six-year-olds who were more developmentally ready for the reading tasks required had an on-task rate of nearly 93%. Implications were for more appropriate tasks designed for the developmental capabilities of the children involved.

Stallings, Jane, Richard Jonnson, and Jennifer Goodman. "Engaged Rates: Does Grade Level Make a Difference?" Journal of Research in Childhood Education 1.1 (1986): 20-26.

Developmental attention span was examined in 416 children from kindergarten through fourth grade. Children were observed in both reading and math groups. Kindergartners average time was 70%, while fourth graders had increased to 84%. The greatest variance of times was in the kindergarten children, indicating a wide range of developmental levels. When kindergarten teachers imposed stronger expectations for children to stay on task for longer periods of time, the children became hesitant and even tearful. The researchers directed their results to the improvement of teacher planning of lessons and not to increasing children's attention span. Lessons designed with activities that met the developmental attention span of the children being taught had the most successful effects on student achievement.

LITERACY DEVELOPMENT

Barnhart, June E., and Elizabeth Sulzby. "How Johnny Can Write: Kindergarten Children's Uses of Emergent Writing Systems." Resources in Education, April, 1986. ED 280 081

The purpose of this study was to examine the developmental nature of early literacy. The subjects were 16 kindergarten children from a "low income" area and 16 from a "high income" area both in a Chicago suburban community. These two groups were selected from 43 kindergartens in the district. Average age of children was five years five months. Each child was asked to perform a series of four tasks. Task 1 dealt with writing words, both alone and as part of a sentence; Task 2 was writing a story and re-reading it. Task 3 was performing three Piagetian tasks: conservation, seriation, and classification; and Task 4 was a form of the Metropolitan Readiness Test. The High Income group scored significantly higher than the Low Income group in writing and re-reading development. Both groups used conventional and invented spelling, patterned or random letter strings, letterlike units, scribbles and drawing. No significant correlation was found between the writing tasks and the Piagetian tasks indicating little, if any, relationship between children's conceptions of written language and their ability to perform concrete activities. As the demand of the writing tasks grew more difficult, the children's forms grew progressively immature. Whatever writing tasks were required, implications were that the children conceptualize it in a variety of ways.

Crenshaw, Shirley R. "A Semiotic Look at Kindergarten Writing." Resources in Education, 1985. ED 269-765

This study described beginning literacy learning by observing the writing exercises of a group of kindergarten children. There were 24 children, 13 boys and 11 girls who participated in the program from January to May. A core group of 18 was constant. Writing samples were collected throughout the program. Writing performances, processes and interpretations were given equal consideration in different social situations. In order to gather as much information as possible, the researchers observed, tape recorded, surveyed, interviewed and photographed the children as well as collecting their writing samples. Writing progressed from random scribbling to words spelled exactly right. Most of the children did not place in a strict category, rather they were learning and developing each time they wrote. "The most helpful insight from this exercise was a realization that categorizing children is difficult and possibly inaccurate." It was also concluded that the social setting of the kindergarten provided many signs for literacy learners. Peer influence proved to be the most important influence on an individual's writing performance. Children, parents, and teachers all concurred that to be a successful learner, one must be able to write. A major limitation here was the small sized sample.

INAPPROPRIATE PRACTICES

Shepard, Lorrie A. and Mary Lee Smith. "Escalating Academic Demand in Kindergarten: Counterproductive Policies." To appear in a Special Issue of the Elementary School Journal on Programs for Four and Five Year Olds in Public Schools, Fall 1988.

The data gathered for this report indicated nigh academic demands in many of today's kindergartens. Nearly half of the kindergartens surveyed reported some type of formal reading program and better than 3/4 of another group indicated their top priority in kindergarten was academic achievement. This trend indicated a definite downward shift in grade level expectations. In a group of 100 randomly selected programs, 25% had numerous skills listed as a major component of their curriculum. In interviews with 40 kindergarten teachers in a middle class district, many references were made to the pressures put upon them by the first grade teacher's expectations. First grade teacher interviews yielded the same idea -- "pressures to produce certain products by the end of the first grade." It was also observed that many middle class parents made demands for accelerated reading programs in kindergarten with little or no evidence of what was developmentally appropriate for their children. One of the results of all this pressure was that teachers began gearing their instruction to the older and more mature students while those who were younger and "not ready" were left out and probably retained. Adjusting entrance age for kindergarten was not a viable answer, it just provided a new group of younger children. Higher entrance age was also found to be discriminatory towards children of low socioeconomic background. Readiness screening was judged ineffective due to the lack of reliable and valid measures and the misuse of instruments designed for other purposes. The Gesell Institute considered 1/3 of all children eligible by age for kindergarten would be identified as "not ready", but Shepard and Smith found that in one instance the Gesell test had misidentified half of a group of at-risk children. Kindergarten retention was also judged as inappropriate. Implications were for adapting the kindergarten curricula for the wide range of individual differences.

ENTRANCE AGE

Uphoff, James K., and June Gilmore. "Pupil Age at School Entrance: How Many are Ready for Success?" Educational Leadership 43.1 (1985): 86-90.

Uphoff and Gilmore reported on the school success of children ranging in age from younger than 5 years 3 months to 6 years 3 months at the time they entered kindergarten. In one study of 278 children, 23% had summer birthdays, and 75% of these younger children failed in school. On the other hand, 9% of the 278 had summer birthdays and were held back a year and none of these children failed. Of these two groups, the held-back children had lower IQ scores, but scored higher on the Iowa Test of Basic Skills than did the younger, brighter children. Given a year to mature developmentally, the held-back group was able to stay on-task 2 to 3 times more than the younger ones. There was a definite positive correlation between pupil age and attention span. In another study, the results again showed the older pupils did better in school--60% of the younger girls and 100% of the held-back girls, and 47% of the younger boys and 81% of the held-back boys all made above-average grades. As these children progressed in school, the younger ones who failed had more time but achieved lower scores than the older group. In a pilot study, Uphoff and Gilmore found that 45% of male youth suicides (25 and younger) and 83% of female suicides were summer children. Implications were that too many kindergartens were requiring too much too soon for too many young children and steps had to be taken to remedy this problem.

Maddux, Clebourne D., Don Stacy, and Mary Scott. "School Entry Age in a Group of Gifted Children." Gifted Child Quarterly 25.4 (1981): 180-4.

This study was conducted to determine whether school entry age in gifted children was a significant factor. The group of children in this instance had no screening or testing and were admitted to first grade based only on their chronological age. Family size and birth order were also taken into consideration. There were 188 children selected for an academically gifted program in a large suburban Texas school district where families were mostly affluent and white. Socioeconomic status ratings revealed a predominance at higher social class positions--144 of the children were from the top three positions. Family size data revealed 13 "only" children and 84 from two-child families. Of all the children, 49.5% were first born. The children were divided into two groups, Early Entry and Late Entry. "Results indicated a tendency showing that gifted children entered first grade when they were relatively old." (182) Analyses made when birth order and family size were statistically controlled yielded the same effects. Implications were that early entry was not advised unless more effective early screening and testing programs were used.

ASSESSMENT

Meisels, Samuel J. "Uses and Abuses of Developmental Screening and School Readiness Testing." Young Children 42.2 (1987): 68-73.

Meisels studied instruments designed for developmental screening and readiness testing in several locations. He found that many of these were used inappropriately. In one New York State study, 151 different tests were used in 177 school districts, and only 16 were judged to be appropriate. In a Michigan survey, 111 different tests were used, while only 10 met "appropriate" standards. He was particularly concerned with what he called the "widespread misuse" of the Gesell tests which have never been validated. The latest norms available on the Gesell tests were based on 640 Caucasian children who all lived in Connecticut. Meisels feared that results of these tests were used inappropriately to label children and even to deny them the kinds of educational programs to which they were entitled. When used as intended, the test results helped teachers determine curriculum designs geared to meet a range of developmental levels. The danger was in trying to make the children "fit" into a system that was inappropriate for them. Meisels concluded that it was the schools and not the children who were "not ready".

Thurlow, Martha L., Patrick J. O'Sullivan, and James E. Ysseldyke. "Early Screening for Special Education: How Accurate?" Educational Leadership 44.3 (1986): 93-95.

This study investigated what really happened to children who underwent early screening procedures, and as a result were placed in special programs in Minnesota. What they found was that assessment and decision-making practices varied widely across the state. From a sample of more that 45,000 children, 31% were diagnosed as having problems, while 24% were recommended for more extensive testing. Hearing and development were the highest problem areas. Some districts reported 100% of the children screened had some degree of a problem; others reported none. Special testing referrals ranged from 0 to 86% in different locations across the state. Some districts focused on hearing problems, others on motor development. There appeared to be no consistency. The researchers looked for influences that might have determined why a certain district reported the statistics that evolved. "After analyzing data from nearly 400 districts they found no significant relationships between screening referral rates and any general, social, economic or educational factors." (94) They also surveyed tests used in other places to find out if Minnesota might have chosen better instruments, and found only a few actually measured what they were supposed to measure. The reliability and norming procedures were also questionable for many of these screening tests. Implications were that for such important decision-making practices more accurate data would be of vital importance, both for the children and the school districts involved.

Cadman, David et al. "The Usefulness of the Denver Developmental Screening Test to Predict Kindergarten Problems in a General Community Population." American Journal of Public Health 74.10 (1984): 1093-1097.

This study was conducted to determine the effectiveness of a pre-school screening program in predicting learning problems. There were 2,569 children recognized as having some developmental immaturity who were tested with the Denver instrument. Those children who received a positive score on the test were followed closely by a public health nurse. At the end of the kindergarten year, the kindergarten teachers rated all of the children in their classes. The Denver predictions did not agree with the teacher ratings: Teachers reported 17% learning problems, the Denver only 6%; teachers - 11% behavior problems, Denver - 5%; teachers - 8% referrals for special programs, Denver - 5%. There was also the possibility that the children might have been mistakenly labeled as "problem" from the test results. The researchers supported the teachers' ratings as reliable and a more appropriate assessment than the limited range covered by the standardized instrument.

Meisels, Samuel J. "Testing Four- and Five-Year-Olds." Educational Leadership 44.3 (1986): 90-92.

Developmental screening tests and readiness tests were designed for two separate and distinct purposes. They were never meant to be substituted, one for the other. There appeared to be real problems in program design when results of these two types of tests were inadvertantly interchanged for entirely different purposes. Test selection needed to be determined by the goals of the administration where the tests were given. Meisels gave criteria for selection of both screening and readiness tests.

He concluded that "testing...should only be used to obtain the best and most appropriate services for the greatest number of children". Meisels observed that a significant number of testing situations across the country had not used results appropriately. Results were meant to be used as only one piece of the puzzle to ensuring a successful school experience for all children. The key issue was "matching" testing situations to the levels appropriate for the children being tested.

COGNITIVE DEVELOPMENT

Clark, Julia V. "Development of Seriation and Its Relation to the Achievement of Inferential Transitivity." Journal of Research in Science Teaching 20.8 (1983): 781-94.

This study was conducted to see how children progress from one developmental stage to another. Instructional training was provided to determine if that progress could be accelerated. The children selected for the study were 30 black boys and girls from a kindergarten and first grade in a middle class neighborhood in Atlanta. They had been rated by their teachers to have "average" or "above average" intelligence. All of the children demonstrated an inability to perform the tasks that were to be required in the testing situation. They were divided into three groups of 20, a control group in which there was no treatment, a group to learn seriation, and a group to learn transitivity. Post tests results showed only 2 control group children succeeded in the seriation tasks; 13 children were successful on the seriation tasks, and only 5 children were able to make transitive inferences. In agreement with Piagetian theory the older children were more successful. The training provided did improve the children's ability to perform the seriation tasks. Inferring transitivity was trying to get the children to do something they were not ready for developmentally. Even if the child succeeded he could not explain what he had done, so it was not really learned. Making inferences was too complex for kindergartners and some first graders, too. It was claimed that training geared to the cognitive level of the student influenced developmental growth. Implications were for the use of manipulative materials of many kinds at the kindergarten and first grade level.

Offenbach, Stuart S., Gerald E. Gruen, and Bradley J. Caskey. "Development of Proportional Response Strategies." Child Development 55.3 (1984): 963-72.

The purpose of this study was to determine how children learn proportional concepts and how this was affected by their developmental stage. Twenty-two kindergarten children were included in this study of 155 children from a rural agricultural area. Second, fourth and sixth graders were also examined. The kindergarten children responded consistently as high as 63% on one trial but leveled off at 57%. Correct responses increased with age--grade 2 at 73%, grade 4 at 86% and grade 6 at 89%. Overall, the kindergartners displayed little understanding of the proportion concept. They did not keep trying out new responses after negative feedback because of the complexity of the task. Kindergartners' cognitive abilities were not developmentally advanced enough to deal with the increasing complexity of the tasks required. Implications were that when tasks get too complex, kindergarten children falter.

Dalenberg, Constance J., Karen Linn Bierman, and Wyndol Furman. "A Reexamination of Developmental Changes in Causal Attribution." Developmental Psychology 20.4 (1984): 575-583.

This study examined the influence of rewards, intrinsic and extrinsic, when children were told about another child. The children were supposed to decide if the presence of absence of a reward motivated the "other" child's interest in an activity. There were 19 boys and 19 girls in each level, kindergarten, second, and fourth grades. All of the children were read stories and then asked questions about "liking" in a reward situation and a nonreward situation and to explain why. For the kindergarten children, even the researchers' questions were too complicated. The inferences they were asked to make were beyond their developmental capability. The kindergarten children did not explain their answers as specifically as the older children in the reward situation. Asking these young children to interpret the behavior of a story character was beyond their understanding. The older children were able to give more reasonable explanations indicating a developmental or maturational effect in being able to attribute cause to a situation.

COMPUTERS

Hungate, Harriet. "Computers in the Kindergarten." The Computing Teacher 9.4 (1982): 15-18.

This project was designed to show that kindergarten children could learn basic skills from computers. At a San Francisco area kindergarten, a class of 12-14 children had computer assisted-instruction from October, 1980 through May, 1981. In September of 1981, 4 students from the computer class were compared with 6 who had not had computer instruction. A series of tasks performed without the computer yielded the following results: only half of the children in each group could write 0 to 10 correctly; in 2 block counting tasks, all of the computer group mastered and half the non-computer group could not do one part, while 4 of the 6 mastered the other part; in tasks with their own names, both groups mastered; in a task with telephone numbers, the computer group performed better. While these results looked favorable, it was also reported that in a Comprehensive Test of Basic Skills in May, 1981, the non-computer group scored a mean of 23.8 as compared with a mean of 16.3 for the computer group. These scores were out of a possible 26 points on the mathematics section. The author recommended that computer programs be designed to the children's age level and ability.

Grover, Sonja C. "A Field Study of the Use of Cognitive-Developmental Principles on Microcomputer Design for Young Children." Journal of Educational Research 79.6 (1986): 325-332.

This study was conducted to determine if computer software design could meet the developmental abilities in young children. Weaknesses in perception and learning styles were taken into consideration. The goals were to increase eye-hand coordination, use more picture clues, use more clues for harder concepts, personalize the feedback, reduce complexity of graphics and use only neutral feedback. Cognitive and developmental principles that enhanced learning and comprehension were followed in designing the software. Young children had difficulty when two-dimensional tasks were required of them. The subjects were 134 students from four schools, of which 82 were kindergarten children. Two software programs were used--a letter program and a number program. Each program was presented in a "cognitive" (using principles), and a "noncognitive" form (disregarding principles). Kindergarten children who used the software designed with cognitive-developmental principles had more than 95% accuracy on responses. A voice synthesizer proved ineffective and lowered correctness to 69%. Those using the "noncognitive" software displayed a 79.5% correct response. Implications were that computer software design must meet the cognitive and developmental levels of the children using it. Some children had difficulties looking up at the screen and down at the keyboard. More software designed with cognitive-developmental principles needed to be designed.

READING

Larrick, Nancy. "Illiteracy Starts Too Soon." Phi Delta Kappan 69.3 (1987): 184-189.

The main purpose of this report was to increase awareness about the problem of illiteracy in the United States and to give an example of a program that seemed to be successful in addressing this issue. It had been reported that 60 million people, or 1/3 of the adult population of the United States was functionally illiterate. "When the U.S. was compared with the other 159 member nations of the United Nations, it ranked 49th in level of literacy". This appeared to be increasing at an annual rate of 2.3 million more. These facts implied that these people did not learn to read as children. Many critics blamed the schools. Publishers of basal reading series purported to have all the answers, for a price. Phonics and decoding with lots of skill and drill workbook practice were supposed to teach children to read. Part of this process was to "begin with what was incomplete or wrong, and try to make sense of it". Too many beginning readers had simplified stories so much that they did not make sense. Children learned best through reading words that sounded like the way they talked. A reading program that empnasized children's literature was implemented in a public school in a poor section of New York City. This school was designated as one of New York's worst schools. Of the 225 kindergartners, 92% were from homes where English was not spoken; 96% were below poverty level; and 80% could not speak English when they came to school. The kindergarten curriculum reflected a Piagetian view and "used language experience and immersion in children's literature". There were no basal readers, workbooks, activity sheets or practice books. Many library books were available for the children right in their own classroom. Labels were on everything and children "collected" words. After one year in the program all of the children could read their own dictated stories and some very simple books. Some were even reading second grade books. Children in the special education section were also able to read their own word collections and three of these children could read the simple books. At the end of the first grade, all were reading in English with 60% on or above grade level; some at third grade level. On a simple test of comprehension all but 3 were able to read and understand what they read. To prepare these children for a state test, they were instructed in "test taking skills". Implications were that a literature based program gave children a good beginning in reading.

Willert, Mary K. and Constance Kamii. "Reading in Kindergarten: Direct Versus Indirect Teaching." Young Children 40.4 (1985): 3-9.

This article reported a study of how children develop their own knowledge about reading. Ms. Willert taught the same group of 10 children for 3 to 4 years, from age 2 to 6 and was able to note their development and progress first hand. She recorded 100 anecdotes on how these children learned to read and the processes they used for five weeks. "She found that the children seemed to 'invent' ways to figure out words and some of their strategies developed before others; and her most advanced reader appeared to use many strategies when reading." Six strategies seemed to appear in the following order: (1) focus on first letter of a word; (2) focus on configuration of a word; (3) clues from pictures and situations; (4) looking for familiar letters and combinations of letters in the rest of the word; (5) practice in spelling and copying words over and over, until they become known; (6) inventing and using a phonological system for sounding out. (5) Development of their own natural initiative might have been lost had these children been taught with worksheets and phonics drills. This could have caused them to become too dependent on their teacher besides undermining their self-confidence. Willert also observed much peer interaction in this process. Communicating with each other in meaningful ways was much more effective than a teacher's direct dictation. The children in this study constructed their own method of learning words quite successfully rather than having it imposed upon them by an adult. Since it was their "own" it held more lasting value. Implications were for teachers to extend what the children bring with them to enhance their desire to read, write, learn, think and communicate with others in a meaningful way. In this indirect way, the teacher was more able to promote curiosity, self-motivation and a positive self-image.

REMEDIES

GENERAL

Pipho, Chris. "Kindergarten: One Size Doesn't Fit All." Education Week. 18 May 1988, 25.

This article focused on the disparity of readiness skills of children entering today's kindergartens. This led to some states initiating questionable testing procedures with implications for possible curricular and/or organizational changes. Some children came already reading and others had social skills learned from spending several years in day care. Television had played an important part in teaching many traditional kindergarten topics. And still others came to kindergarten with little or no skills in any areas--almost "blank slates"! Then there were the pressures from parents whose demands ranged from letting children be children to pushing for academics and homework. In Georgia, the state education board had mandated an achievement test for first-grade promotion decisions. In 1989, 93,000 kindergarten students will take a modification of the California Achievement Test. Expectations were that 10% will be retained. While some defended the proposal on the grounds of identifying those children with possible learning problems, others feared unfair labeling. In Minneapolis, since 1984, 11 to 14% had failed in a testing procedure similar to the one proposed in Georgia. Those who were identified were placed in a transition program. In a longitudinal study of some of these children, another promotion test was administered at the end of second grade. Out of 176 children, one third were identified as needing special services and 13 were retained in second grade. Looking ahead, in 1988, 20 states considered legislation motions dealing with early childhood education and one third of the nation's governors openly acknowledged this as an area of concern. The research implied revising the curriculum to meet the needs of all children, not trying to make the children fit into the curriculum.

Robinson, Sandra Longfellow. "Kindergarten in America: Five Major Trends." Phi Delta Kappan 68.7 (1987): 529-530.

The main purpose of this study was to describe kindergarten practices in the United States. Data were compiled in 1974, 1981, and 1986 from interviews with public school officials. From 1974 to 1986, the number of states offering free public kindergarten programs to more than 90% of their eligible children doubled, from 23 to 46. In the same time, kindergartens have gained significantly more funding and control from their local communities. Teacher education and entrance age requirements, population served, length of day, curriculum focus, and compulsory or voluntary attendance were decisions all being made at the local level. This proved to better serve the needs of the children enrolled. With local school districts supplementing state funds, more states were able to report more children in kindergarten for more hours. Another trend was that kindergarten teachers who were being hired had more education than in the past. In 1986, Indiana was the only state to report that some of their kindergarten teachers held associate's degrees or less, but 83% held Master's degrees! Twenty-eight states reported a requirement of at least a bachelor's degree and several states did not answer this particular question. The final trend was noted in the increasing number of states with compulsory education beginning at age 5. Implications were that early childhood education is coming into its own.

Schweinhart, Lawrence J., Jeffrey J. Koshel, and Anne Bridgman. "Policy Options for Preschool Programs." Phi Delta Kappan 68.7 (1987): 524-529.

Four major policy options were identified for those who were in positions to influence early childhood education. Since millions of dollars were being appropriated for early childhood programs, especially for those children from low icome families, careful decisions had to be made to benefit the most children possible. What ages would be served; which children would participate; and who was responsible for successful implementation had to be considered. Which kindergarten program best served the needs of the family--part-day, full-day or programs with extended hours for day-care? Funding was the toughest issue. Emphasis was placed on data that indicated increased financial commitment to quality early childhood programs had proved to save money that would have to be spent on remediation and social problems later on without these programs. Public schools, government programs, and local community agencies all had to be taken into consideration. Implications were that policy makers had to determine which choices would benefit the most children, with special attention to the needs of at-risk children.

McConnell, Beverly B., and Stephanie Tesch. "Effectiveness of Kindergarten Scheduling." Educational Leadership 44.3 (1986): 48-51.

The main purpose of this study was to compare the half-day full-day, and full-day alternate-day kindergarten programs in the Pasco, Washington School District. When observers compared behaviors on several different issues, there were no significant instances of fatigue or stress in one program more than another. They also concluded that the full-day schedule did not reveal any less productive learning time than the traditional half-day program. Parents concurred with this observation. Researchers also noted how the different schedules affected behaviors in the classroom, study habits, and socialization skills. Children in the full-day alternate day program were more well-adjusted to school and had better work habits than the children who attended half-day every day. This study used 13 different measures to compare academic achievement and language development. All tests except one yielded no significant differences for the two programs, half-day versus alternate-day. The one exception was the Peabody Picture Vocabulary Test which resulted in better scores for the alternate-day group. In comparing the half-day program with the full-day every day program, findings were in favor of the full-day plan. Also, since their enrollment was increasingly poor and minority, they collected data pertinent to that concern. Poor children (free lunch) had better test results on the alternate-day schedule on 10 out of 13 tests, including 6 tests on language development skills. Nonpoor children's results were also better in the alternate-day program or 9 of the 13 measures including the language tests. None of the results were judged to be statistically significant except one area of language development for the poor children. Minority children also fared better in the alternate-day program in the area of language development. But for all the other measures and particularly in math, the minority children did better in the half-day program. Nonminority children's scores favored alternate-day programs in math and half-day produced better language results. The language development gains made by the poor and minortiy children were attributed in part, to the 25% more time for interaction and conversation with other children. Over 85% of the parents were satisfied with the programs.

Gersten, Russell, and Thomas Keating. "Long-term Benefits from Direct Instruction." Educational Leadership 44.6 (1987): 28-31.

The main purpose of this study was to determine the effect primary direct instruction programs had on high school performance. Subjects were selected by participation in a Follow Through program. Follow Through was designed to find effective programs for educationally at-risk students. Although direct instruction students performed at or near the national norm on standardized achievement tests, a Hawthorne effect was a likely explanation. Direct instruction curriculum taught skills in a step-by-step method and teachers received help in solving instructional problems. Three inner-city schools and one rural school were included in this study. The question asked was: "Did successful early learning experiences cause students to stay in school and graduate?" For those children who had direct instruction in kindergarten, their ninth grade achievement test scores were almost at grade level or the 40th percentile; while the control group scores were only at the 26th percentile. In both reading and math, the direct instruction students scored higher. Children who attended the direct instruction kindergarten program displayed positive effects a full six years later. They had fewer attendance problems and retentions. On a ninth grade achievement test, direct instruction students scored higher in both math and reading than the comparison group. While positive results were found in most areas, there was still a drop-out rate of nearly 40%, less than the 59% for the control group but still too high. Implications were that effective instructional programs must be designed for these at-risk students all the way through school and not just at the beginning.

Connell, Donna Reid. "The First 30 Years Were the Fairest: Notes from the Kindergarten and Ungraded Primary (K-1-2)." Young Children 42.5 (1987): 30-39.

Connell's report covered a five year period in an ungraded primary school. There were 60 students grouped by achievement levels spanning kindergarten through third grade. No one group had a greater age spread than three years--groupings were 4-5-6, 5-6-7, and 7-8-9. The children came from a large rural district--some from low income single parent homes on welfare, some migrant workers' children who spoke only Spanish, some from isolated farms where lack of interaction made them language deficient, and also children from neighborhoods with lots of play experience. In striving to meet the individual needs of all these children a developmental approach was used. Their instruction was individualized "(not one to one, but appropriate)" (37). A child had the opportunity to complete the K-4 cycle in 3, 4, or 5 years. At the end of the five years, this ungraded school had the highest Stanford Achievement Test scores in their district. All other elementary schools in the district had traditional age-graded programs. Unfortunately, political pressure from the principals of the other schools forced closure of this school when enrollment dropped in the district. Their reasoning to the school board was that larger schools are more economical.

COGNITIVE DEVELOPMENT

May, Deborah C. and Edward Welch. "The Effects of Developmental Placement on Young Children's Cognitive and Social-Emotional Development." Early Child Development and Care 22.2-3 (1985): 195-209.

Examined in this study was the effect, if any, that developmental placement had on cognitive and social-emotional growth. Two-hundred twenty-three children, second through sixth grades, in a suburban white middle class district were evaluated beginning with their kindergarten screening. Three groups were designated for the purpose of this study: 102 TR, traditional (developmentally mature); 622 BAY, "buy a year" (developmentally immature and retained); and 59 OP (overplaced-parental objection to retention). Scores from the Gesell Screening Test were used to divide the groups. (198-199). There were significant differences between the TR group and the BAY group at the end of kindergarten and at the end of first grade. There were no significant differences between the BAY and the OP groups. The TR group scored significantly higher on a third grade reading and math evaluation. There were no significant differences between the other two groups. On the Stanford Achievement Test, the mean for the TR group was 14 points higher than the BAY and only 7 points higher than the OP group. The mean IQ score was 11 points higher for the TR group than the BAY group and only 4 points above the OP group mean. There were no significant differences in the number of referrals for special programs. Gifted placement ranged from 24 from the TR group, 5 from the BAY group and 6 from the OP group. It appeared that the OP children fared better than the BAY children. It was pointed out that the OP children had more mature role models in the TR children than the BAY children who were all placed together.

Danner, Fred W. and Edward Lonky. "A Cognitive-Developmental Approach to the Effects of Rewards on Intrinsic Motivation." Child Development 52.3 (1981): 1043-1052.

Following the Piagetian theory that cognitive growth occurs when children used what they already knew to expand and acquire new knowledge, these researchers set out to match cognitive levels with demands of tasks and to determine what effect rewards and praise had on the performance of children who varied in their interest levels. Children were divided into three cognitive ability groups by a series of classification tests. The mean age for the kindergarten group was 5.5. The procedure was a presentation of three learning centers with increasing difficulty of tasks. The children were to choose one that was "just right for them". The results indicated that children were most interested in the center that was within their capabilities but developmentally a step ahead of their level. The centers that were too easy or too hard did not appeal to them as much as the moderately difficult one. Building on these results, Danner and Lonky introduced rewards and praise in a second experiment. They also included a situation with no reward. Results for the kindergarten children showed that rewards did not increase their motivation to work on a more difficult task if they were not initially drawn to it. However, for those children who were more self-motivated to try the harder tasks, rewards did seem to increase their interest. The results of praise followed the same as the reward condition but with less impact. The no reward setting also seemed to increase interest maybe due to the novelty of the situation. In the older children tested, 2nd and 4th graders' self-motivation decreased after rewards and praise to a slight degree. Implications were that rewards and praise must be used with care and concern.

Epstein, Herman T. "Learning to Learn: Matching Instruction to Cognitive Levels." Principal 60.5 (1981): 25-30.

In an effort to determine a measure of a child's learning capability at a given age, Epstein concluded that there was such a wide range of abilities that age-grading was not effective for most children. One study tested 2,000 children from ages ten to fourteen and another 1,000 at ages fifteen and sixteen. At any given age, children fell into four and sometimes five different cognitive levels in widely varying percentages. For example, at age 10, 12 percent were in cognitive level 1, 52 percent in level 2a, 35 percent in level 2b, with only 1 percent in level 3a. The data also revealed that there was a definite correlation between brain growth stages and increasing cognitive levels. This showed up in percentage shifts to higher cognitive levels as the children grew older. Implications were that it was possible to individualize curricula for more effective learning.

Tolor, Belle and Alexander Tolor. "An Attempted Modification of Impulsivity and Self-esteem in Kindergartners." Psychology in the Schools 19.4 (1982): 526-531.

This study was conducted to see if there was a connection between self-esteem and impulsivity or reflectivity and also to see if impulsivity could be modified with training. Impulsive children's reactions seemed to interfere with learning in some instances. Subjects were 39 kindergarten children from two separate classes in the same elementary school. They were given a Matching Familiar Figures Test to determine impulsivity or reflectivity, and a Primary Level Self-Appraisal Inventory to measure self-concept. Eleven children were judged to be impulsive and given three weeks of training sessions. The reflective children had no special treatment, but were read stories to equate the special attention given the other group. At the end of the three weeks, both tests were given again. The impuslive group made a significant gain in both performance and accuracy. The reflective group showed no significant change. No significant changes in self-esteem were evident for either group. The hypothesis relating impulsivity or reflectivity to self-esteem was not supported. Implications were that remediation for impuslive children is one way to help them learn more effectively.

LITERACY DEVELOPMENT

Nurss, Joanne R., and Ruth A. Hough. "Young Children's Oral Language: Effects of Task." Journal of Educational Research 78.5 (1985): 280-85.

The main purpose of this study of language development was to observe grade level trends and complexity of language used. Children in kindergarten through third grade were asked to perform in five different language eliciting tasks. Twelve children from each grade level were chosen from an integrated urban school. Random selection based on average achievement ratings by teachers was utilized. Kindergartners used less mature narratives and showed significantly poorer comprehension than the primary grade children. Kindergartners conception of an original story was also less mature. Across all tasks, it was clearly evident that kindergarten children did not have the same level of maturity in language that the first, second and third graders had. The differences were limited, but not significant, in indicating a developmental growth trend. On the task of giving directions to make a product, the difficulty for some of the kindergartners was too complex. Implications were for careful planning on the part of teachers to elicit the language development they desired. Teacher modeling and guidance in fostering language growth were also suggested.

Fields, Marjorie V., and Deborah V. Hillstead. "Reading Begins with Scribbling." Principal 65.5 (1986): 24-27.

How children become literate was the main purpose of this study. Following Piaget's method of watching and listening to children to find out how they learn, definite stages were recognized in young children's writing. "Observed first was a linear repetitive stage; followed by a combination of letter-like forms and letters, both manuscript and cursive; then came the letters and letter-like forms and other symbols with definite intended messages; next was beginning 'inventive spelling', linking sounds and symbols; and finally, the transition phase-combining standard and invented spelling with random letters". At each stage, the child was communicating at his/her own developmental level. Inventive spellings gave way to standard spellings as the children experienced more exposure to all kinds of written materials. Allowing children to discover letters and sounds by scribbling and writing made a more concrete impression than the activity of filling in a letter on a workbook page. Since children learned from their own experience with real things, it was concluded that allowing and encouraging first attempts at writing would be an appropriate practice for beginning readers.

ALTERNATIVE PLACEMENT

Gesell Institute of Human Development. Open the Doors to School Readiness pamphlet. New Haven, Conn.: 1988.

The Institute reported that "as many as one third of all children were not ready for school when they enter". Emphasis was made on the varying growth rates of young children in all areas of their development, "physical, language, intellectual, fine motor, social and emotional". Developmental age was found to differ from chronological age. Gesell recommended a developmental placement program for those children who were not ready for regular first grade work. The pamphlet also described four major parts for an effective developmental placement program: "teacher training, appropriate placement, curriculum, and parent education". Implications were that success for all children was attainable when programs were designed to meet their needs no matter what stage of development they were. Use of the Gesell developmental placement program was gaining popularity all over the country as more and more children were unable to successfully meet the demands of kindergarten.

Galloway, John E., and Jan George. "Junior Kindergarten." Educational Leadership 44.3 (1986): 68-69.

A junior kindergarten program was piloted and later established in the Chesterfield County, Virginia, schools to meet children's developmental needs. To assess readiness, children were given the McGraw-Hill Cooperative Preschool Inventory and the "Draw a Person" test in the spring. To complete the assessment, the SRA Primary Mental Abilities Test was administered in September, as well as checks on fine and gross motor development. Final decisions on placement included input from teachers, parents, and preschool teachers. Developmental level and not chronological age was the determining factor in selection for the junior kindergarten program. The maximum pupil/teacher ratio was 20:1, with an instructional aide. Some schools had "split" classes with some regular kindergartners in the same room with junior kindergartners. In those instances, the program was designed to meet the needs of both groups. Achievement levels for both groups in the split classroom was equal to or higher than traditional kindergarten classes. For children who were not ready socially, emotionally, intellectually, or physically - junior kindergarten was one way to prevent failure that would have long-term damaging effects on self-concept and attitudes about learning. The goal of improving chances for all children to experience success in their first school encounter was met most aoly by the junior kindergarten program.

Leinhart, Gaea. "Transition Rooms: Promoting Maturation or Reducing Education?" Journal of Educational Psychology 72.1 (1980): 55-61.

This study had three main purposes: (1) could achievement deficits be identified at the end of kindergarten?; (2) would a transition year influence academic programs?; and (3) did an individualized reading program make a difference? Four urban elementary schools, 62% black, with a middle- to low-income economy were included. The subjects were 32 transition eligible children in first grade and 44 children who were enrolled in transition programs. Classroom observations, teacher interviews and standardized testing with the First Grade Screening Test and the Stanford Achievement Test were the assessment tools. The transition eligible children were 8 points below the transition children in the regular classroom at the beginning of first grade. Results from posttesting showed that these children were still 30 to 45 points behind their peers. Children who were placed in the transition program were still 49 points below regular first graders. Outcomes also supported the individualized reading program over a basal program for these "at risk" children. The transition eligible children in an integrated setting with other first graders fared better than those children isolated in the transition program with children of similar abilities. It was also noted that regular classrooms emphasized reading instruction, while transition rooms had nearly 50% less reading instruction and focused on "learning to learn". Students who had been identified as poor learners but placed in regular classrooms had appropriate models of school behavior and saw successful learning take place.

Gredler, Gilbert R. "Transition Classes: A Viable Alternative for the At-Risk Child?" Psychology in the Schools 21.4 (1984): 463-470.

Gredler examined the concept of the transition class and the impact of teacher attitudes. Transition classes were designed to provide an extra year for children who were judged "not ready" for first grade work. It was believed that in order for these children to succeed, they had to be separated from their peers. It was also hoped that the children in transition classes would make gains in social, emotional and intellectual maturity. Gredler found that "unready" children who were placed in a regular first grade made more progress than the transition group. Although they were not judged to be statistically significant, the scores on the Stanford Early School Achievement reflected higher levels for those "low" children in regular classrooms in 9 out of 10 areas. Teacher interviews indicated positive support and belief in the transition program and its potential for promoting confidence and academic achievement. Actual results clearly denied this. Implications were for more appropriate individualized instruction within regular classrooms both at the kindergarten and first grade levels.

RETENTION

Shepard, Lorrie A. and Mary Lee Smith. "Synthesis of Research on School Readiness and Kindergarten Retention." Educational Leadership 44.3 (1986): 78-86.

Shepard and Smith compiled data that represented research findings that appeared to be rejected by the policy makers for today's kindergartners. Comparisons of reading and math percentile scores for youngest and oldest first graders yielded only a 7 or 8 point range. This had implications for kindergarten entrance age. They also reviewed ability levels within first grade which revealed that lower levels did have more younger children. In a longitudinal study they found that there were no significant differences between oldest and youngest children in reading or math by the time they reached third or fourth grade. In a survey of kindergarten teachers, they discovered that 68% of those interviewed considered youngness a determining factor in making retention decisions. "In a study of learning disabled children, they found that only 43% were validly identified." This mislabeling produced negative effects for children as they matured. Shepard and Smith also noted a trend for parents to hold back children whose birthdates came close to the cut-off date for kindergarten entrance. "They also examined the attitudes of older children and found these children to be very aware of their differences in being the oldest." There was also found to be a socioeconomic factor in that the lower level families could not afford an extra year of day care or pre-school. This greatly affected the make-up of a given class when the higher skilled children were kept out a year and the lower skilled children were sent ahead. In reviewing some of the Gesell Readiness test properties, Shepard and Smith questioned the validity claim that the test measured developmental age and not IQ. They also questioned the use of the Gesell to hold children out of school. They supported the Metropolitan Readiness Tests, which they determined did that for which it was designed, guided instructional planning, and did not divide children into "ready" and "unready" groups. Schools were warned to be very careful of how they used readiness measures.

Kaufman, Alan S. and Nadeen L. Kaufman. "Tests Built from Piaget's and Gesell's Tasks as Predictors of First Grade Achievement." Child Development 43.2 (1972): p. 521-535.

This study compared tests designed using tasks from Gesell and Piaget and those tests' effectiveness in predicting first grade achievement. In a Suffolk County, Long Island, New York kindergarten, 80 white children, 49 girls and 31 boys, were given the Gesell School Readiness Tests, a battery developed from Piaget's tasks, and the Lorge-Thorndike Intelligence Tests. At the end of first grade, these same children were administered the Stanford Achievement Test. The Gesell Tests focused on perceptual-motor tasks while the Piaget battery emphasized performance over verbalization. An objective scoring system was developed to compare the results. The Stanford Achievement Test covered Arithmetic, Reading, and Spelling. Both the Gesell and the Piaget showed an overall .64 correlation with the Stanford Test. The Lorge-Thorndike correlation was only .58. The Gesell test showed a higher correlation than the other two predictor tests for Reading, while Arithmetic and Spelling predictions were about the same for all three. Based on these findings, both tests, the Gesell and the Piaget battery displayed validity for predicting achievement in first grade. One other predictor was considered, that of teething level in kindergarten as predicting achievement, but this was not verified in the results.

Shepard, Lorrie A. and Mary Lee Smith. "Effects of Kindergarten Retention at the End of First Grade". Psychology in the Schools 24.4 (1987): 346-357.

The main purpose of this study was to review what effect kindergarten retention might have had on first grade performance. Shepard and Smith found that even within a single Colorado school district, retention rates for kindergarten varied from 5% to 38% in different schools from both high and low socioeconomic neighborhoods. Children were selected to form 40 matched pairs, half kindergarten retainees and half who had not been retained. Sex, birthdate, readiness scores and language dominance were in determining data for selection. Comparisons were made on the pairs of children by 5 teacher ratings and scores on the Comprehension Test of Basic Skills math and reading tests. Parent interviews also yielded important information. The results indicated no significant differences between the children who were retained and those who were not in any of the areas reviewed. The difference of 5 points on the reading scores yielded a 7 point percentile spread and only a 1 month grade equivalency edge for the retained children. This was not considered to be of real significance statistically. Parents felt that their children who were retained did not progress academically as much as they had hoped and they did not have positive feelings about school. As a viable remedy, kindergarten retention did not promote either achievement or adjustment.

May, Deborah C. and Edward L. Welch. "The Effects of Developmental Placement and Early Retention on Children's Later Scores on Standardized Tests." Psychology in the Schools 21.3 (1984): 381-385.

The main purpose of this study was to examine the theory that children who are assessed as developmentally immature in kindergarten would benefit from retention. The group studied was composed of 223 white middle-class children in grades two through six in a suburban school. They were divided into three groups: TR, traditional (those who tested as developmentally mature); BAY, "buy a year" (those who tested as developmentally immature and were retained); and OP, overplaced (developmentally immature but not retained because of parental objection) (383). There were 100 boys and 123 girls; TR-38 boys, 64 girls; BAY-35 boys, 27 girls; and OP-27 boys, 32 girls. Test results from the full Gesell Developmental Test (given at the end of kindergarten and again at the end of first grade), reading and math scores on the third grade New York State Public Evaluation Program, and Stanford Achievement Test scores were compared for all three groups. For the Gesell, the TR group scored a full 7 points higher than the BAY group and 4 points higher than the OP group at the end of kindergarten. One year later, at the end of first grade, the range was 9 and 5, respectively. On the New York State assessment, reading scores varied 15 and 10 points, while math scores showed a 14 and 10 point difference. Stanford scores were 9 and 1 points apart. Even though the BAY group had an extra year, indications were that it had not made much difference for those children. These tests were academically oriented and other areas dealing with developmental factors such as social-emotional and perceptual-motor were not considered.

PARENT CONCERNS

Simmons, Barbara, and JoAnn Brewer. "When Parents of Kindergartners Ask 'Why?'" Childhood Education 61.1(1985): 177-184.

Simmons and Brewer reviewed questions typically asked by kindergartners' parents which sometimes revealed their ignorance about developmentally appropriate practices. When explanations were given dealing with the many faceted concerns of child development, parents were more able to accept a less vigorous, less academic program. Informal rather than formal beginnings were recommended with emphasis on learning to love books, broadening experiences, and enhancing language development. When parents were able to understand the theory and reasoning behind the practices, they expressed more confidence in and support for the kindergarten programs and teachers. The children gained the most benefits from this postive interchange.

Webster, Loraine and Robert W. Wood. "Kindergarten: What Do Parents Want?" Resources in Education, 1986. ED 279 432

What research indicated was that "developmentally appropriate" was not always what was carried out in practice nor explained to parents. This study was conducted to find out what the parents of children attending 92 different schools in South Dakota wanted kindergarten to be for their children. A questionnaire was used listing 15 common kindergarten practices, ranging from formal instruction such as reading to informal developmental activities such as time for free play. Over 2200 questionnaires were returned and tabulated. Teaching phonics and the alphabet, and counting and number recognition both received close to 80% support as the highest ranking. Teaching math facts and time set aside for free play were at the bottom of the list around 25%. Only 35% strongly supported teaching beginning reading, while handwriting instruction and language development activities such as songs, rhymes, finger plays, etc. both rated in the high 50's. The major finding was that parents want both academic and developmental kindergarten programs.

Katz, Lilian G. "Mothering and Teaching: Some Significant Distinctions." Ferguson Lectures in Education, National College of Education. Evanston, 1981.

In this essay, Dr. Katz emphasized the importance of a mutually supportive relationship between parents and teachers for the benefit of young children. The parent's vital role as the child's "first teacher" had been widely accepted in early childhood education. It was observed that while a certain amount of overlapping occurs between the efforts of parents and teachers, there were specific areas that should be distinguished or separated to avoid confusion for the children. Parental functions were defined as having no limits, while the teacher's function was outlined and guided by the school's policies. Affectively, parents had a greater intensity of feelings in interacting with their children than teachers did and this should be maintained. Children's attachment to parents ranged from very weak to "smothering", while teachers needed to be careful not to get too close to their students but still be responsive to their needs. Parents tended towards irrationality; teachers towards rationality. More spontaneous dealings occurred with parents as opposed to the teacher's intentional interactions. It was viewed as appropriate for parents to display partiality but teachers were very careful to remain impartial with all children in their care. Responsibility for one's own child sometimes clouded parents' viewpoints without considering the demands made on teachers to meet "individual needs" as well as maintain the wholeness of the group in a responsible manner. Dr. Katz implied that in order to promote greater respect and understanding between parents and teachers a strong and informed Parent Education program was an on-going part of an effective school for young children.

BENEFITS FOR ALL CHILDREN

GENERAL INFORMATION

Kamii, Constance. "Autonomy: The Aim of Education Envisioned by Piaget." Phil Delta Kappan65.6 (1984): 410-415.

Ms. Kamii examined practices in today's schools in light of Piaget's aim for education. His focus was intellectual and moral autonomy and not transmission of knowledge and values from one generation to the next. Autonomy was defined as being governed by oneself. Educational practices were more heteronomous, promoting conformity by rewards and punishments and acquiescence to another's demands. To encourage autonomy, children needed to learn how to take all relevant information and figure out for themselves the best course of action. Sanctions directly related to acts helped them make choices based on reasoning and not fear of punishment. "Mutual respect between children and teachers was essential for the development of autonomy." Piaget's theory held that children develop moral autonomy by interacting with their environment and relating this action to everything they have learned before. Intellectual autonomy was also acquired by self-motivating interest. "Children constructed knowledge by creating and coordinating relationships." Worksheets convinced children that there were narrowly defined answers to be memorized for the teacher. When asked to explain their reasoning behind an incorrect response, children corrected themselves. Playing partner games encouraged interacting and autonomy much more than workbooks. Workbooks and similar practices did not encourage thinking. Allowing children to exchange points of view made positive contributions to their development in social, affective, moral and intellectual areas. Implications were to allow and encourage children to be autonomous.

Hill, Patty S. "The Function of the Kindergarten." Young Children 42.5 (1987): 12-19.

Three major functions of kindergarten were identified. One was "to minister to the nature and needs of children from 4 to 6 years of age; and secondly, to look forward to the nature and needs of children as they develop through the sixth year". Teachers had to see how kindergarten practices laid the foundation for the activities, subjects and achievements of first grade. These had to be accomplished "without sacrificing the rights of kindergarten children to free, full development at their own level". The third function was seen as bridging the gap between home and school and building upon and extending the learning experiences begun there. This included physical, mental, emotional and social evaluations and remedies, if necessary. These were seen as rights due all children. There was also a need for greater articulation between kindergarten teachers and preschool teachers as well as primary teachers to ensure greater continuity. In the spontaneous work and play of kindergartners, teachers needed to detect and foster the beginnings of all school subjects. When these considerations were overlooked, some first grades had failure rates anywhere from 25 to 50%. Testing abilities on standardized tests did not measure readiness for or achievement capabilities. In too many instances, efforts were made to try to make the child fit the curriculum. Tasks that appeared too difficult for first graders were pushed down to kindergarten, but findings indicated earlier was not better. Kindergarten children deserved activities and experiences at their own level which better prepared them for first grade achievements. Most effective was a program where no formal reading instruction took place, but every possible experience which prepared for later reading was implemented. Instead of giving in to parental demands for more academics, parents were better informed about the developmental needs of young children. Curriculum for first grade began where the children were instead of dictating where they should have been.

White, Sheldon H. "Some General Outlines of the Matrix of Developmental Changes between 5 and 7 years." Bulletin of the Orton Society 20 (1970): 41-57.

The developmental changes in children between 5 and 7 years old were observed to determine what a child could absorb from his experience. There was found to be a definite growth pattern in reasoning, symbolization, and preoperational thought. Behavior changes indicated a higher level of thinking as children matured. Piagetian theory supported these views. Children's training environment moved from home to school causing significant growth. At five or six children seemed to develop abilities which enabled them to cooperate more successfully on certain kinds of tasks. There appeared to be a definite maturational effect on performance with this age group. Brain growth studies also supported the maturation effects. Children of kindergarten age were able to understand expected behavior and produce it over time in increasing increments. Memory access and veroal understanding followed an increasing pattern. Children moved from purely concrete experiences to being able to see relationships between experiences. Dependence upon others diminished while self-motivation and autonomy increased. Reaction and recognition times improved with age. Implications were that teachers of kindergarten children needed to be fully aware of these kinds of developmental changes in order to plan appropriate programs that would enhance this growth.

Goffin, Stacie G. with Claudia Q. Tull. "Problem Solving: Encouraging Active Learning." Young Children 40.3 (1985): 28-32.

Piagetian theory focused on encouraging children to construct more meaning from their experiences. One way to enhance this process was through problem solving activities. This was judged to be different from academic learning where skills were taught. Problem solving encouraged children to create new mental relationships by interacting with their environment and each other. True cognitive growth took place when children were encouraged to discover relationships and ideas. Active investigation of causes and effects of their own actions on people and objects in their environment helped children make effective decisions. Initiative, cooperation, independence and curiosity were promoted. When children were presented with appropriately challenging tasks, their sense of competence was encouraged. Children were allowed to determine their own learning needs rather than those dictated by a teacher. When children arrived at their own understandings, solutions were more meaningful to them. Implications were for teachers to serve as models in problem solving and to consider what children already knew as well as what they needed to know to move ahead. Teachers were resources and questioners, not authorities. In successful problem solving activities, children were active participants in their own learning.

Stanley, William B., Rosalind Charlesworth and Jeffrey L. Ringuest. "Kindergarten and First Grade Children's Social Concept Development." Journal of Social Studies Research 9.1 (1985): 1-16.

Emphasis on the basics and competency testing in reading and math for early childnood programs had diminished the importance of social studies in the kindergarten curriculum. When social studies was included, it provided a foundation for later social education. This study examined social concept development and the relative difficulty of social concepts taught at the kindergarten and primary level. The authors designed an assessment instrument to determine social concept development. They included some activity on the child's part as well as interview sessions. Subjects were 24 kindergartners and 28 first graders from a middleclass socioeconomic laboratory school. This age was selected because in Piagetian theory, "this was when children began moving from preoperational to concrete operational thought". Both scores and reasons for answers were recorded for each child. Categorization or sorting was designed as the main response since learning basic categories is a strong proponent in early concept development. Findings indicated that social concepts were learned right along with basic concepts with a high correlation. The significant differences occurred between kindergarten and first grade scores indicating a developmental maturational trend. The most difficult concepts for the kindergartners were also difficult for the first graders. Complexity and abstract concepts presented difficulty for both groups. Results indicated that firsthand experience did not necessarily infer conceptual meaning for young children when abstract qualities were implied. Implications were that social concept learning is definitely within the learning ability of kindergarten-aged children and should be included in the curriculum. Key concepts for social concept education at an appropriate level for kindergartners were pointed out.

Guidubaldi, John, and Joseph D. Perry. "Concurrent and Predictive Validity of the Battelle Development Inventory at the First Grade Level." Educational and Psychological Measurement 44.4 (1984): 977-985.

This study was conducted to evaluate the validity of a preschool assessment instrument, the Battelle Development Inventory. In kindergarten, 124 children were given an "extensive multifactored battery". From this group, 50 first graders, 25 boys and 25 girls, were randomly selected for the evaluation procedure. The Battelle was designed to assess growth and developmental progress in five areas: cognitive, personal-social, motor, communication, and adaptive. It consisted of structured tasks, direct observations, teacher and parent reports. There were also alternate instructions for administration to handicapped children. Results indicated significant correlations between the Battelle subtests and twelve other widely used measures. The highest correlation was .57 between and BDI and the Metropolitan Language portion. A correlation of .55 was found for the Total Metropolitan score and the Kohn Social Competence Scale, part I. When compared with the Wide Range Achievement Test scores for kindergartners, the BDI displayed a correlation of .38. With such a wide range of measures, the BDI proved to be a valid instrument and predictor of first grade achievement.

Feeney, Stephanie and Robyn Chun. "Effective Teachers of Young Children." Young Children 41.1 (1985): 47-52.

Effective teachers were expected to have "warmth, sensitivity, flexibility, honesty, integrity, naturalness, sense of humor, acceptance of individual differences, ability to support growth without being over-protective, physical strength, vitality, compassion, self-acceptance, emotional stability, self-confidence, ability to sustain effort, and the ability to learn from experience". These qualities, while important, were difficult to measure. Teachers played different roles in different situations while they carried out the responsibilities, duities and functions expected of them. The quality of the teacher-child relationship was an important variable in affecting children's attitude toward school and learning. Success in the classroom depended in part on how well teachers perceived their own values in regards to their teaching style. Teacher behaviors served as models for children. Class size, available resources, and parents' attitudes were listed among situational factors over which teachers had little or no control but had a definite impact on teachers' performance. Implications were that no matter what criteria are used to judge the effectiveness of early childhood teachers, the ultimate concern should be for the optimal development of the children involved.

Honig, Alice Sterling. "Compliance, Control, and Discipline." Young Children (1985): 40.2, 50-58 and 40.3, 47-52.

Teachers of young children needed to choose a discipline plan that would foster compliance and encourage self-control. "Compliance referred to an immediate and appropriate response by a child to an adult's request." Social cooperation was an early stage in the development of more self-confidence and flexibility in solving problems. Activities designed to promote autonomous behavior also strengthened self-control. Children involved in a positive social environment showed a lower incidence of conflict behavior. Management techniques that modeled and encouraged social cooperation and consideration of others worked best. Mutual respect between teachers and children helped encourage cooperation and enhanced self-esteem. Achieving self-control was seen as another facet of the developmental process that teachers of young children must consider. Children who were given many opportunities to make choices about compliance with rules and regulations grew more in self-control than those who were ordered about. Figuring out what worked best for himself as well as the others around him gave a child the self-confidence to keep trying to make it better. Assisted by considerate, patient, courteous and helpful teacher models, children learned more appropriate ways to handle difficult situations. Honig stressed the need for variety in activities and experiences designed to foster self-control. She also emphasized the importance of refocusing or redirecting children from inappropriate activities to appropriate constructive activities.

MOTIVATION

Gottfried, Adele Eskeles. "Intrinsic Motivation in Young Children." Young Children 39.1 (1983): 64-73.

Intrinsic motivation was determined as one of the factors that contributed to a child's success in school. "Academic intrinsic motivation was defined as children's enjoyment of learning, interest in novelty, curiosity, persistence in difficult tasks, and perceptions of competence, mastery and challenge." When children felt that they were the cause of their successful behaviors, their sense of competence was enhanced. As a result, they were self-motivated to perform increasingly challenging tasks. Behaviors observed in play activities exhibited a high degree of intrinsic motivation. The effects of rewards were not as successful in promoting self-motivation as was honest praise. Feedback opportunities also encouraged children in their learning tasks. In a study of 500 children, findings showed that intrinisically motivated children had higher achievements and saw themselves as more competent than did children with lower intrinsic motivation. Encouraging active participation in their learnings and providing many activities to give children practice in making choices were more effective in promoting the development of stronger intrinsic motivation than external reward programs. Implications were for teachers as well as parents to provide experiences appropriate to children's developmental level and interests.

Burns, John L., et al. "Attribution of Causality for Successful Performance by Kindergarten Children." Resources in Education, 1985. ED 264 283

This study was conducted to find out if internal or external rewards motivated kindergarten children to perform a task successfully. Three areas were considered (1) self-concept; (2) internal versus external; and (3) influence of success. Subjects were 43 kindergarten children. Results from Coopersmith and Gilbert's Behavioral Academic Self-esteem scale indicated that children with high self-esteem did not always display internal motivation; nor did those with low self-esteem always go for the external reward. Results from the Stanford Preschool Internal-External Scale did not support the hypothesis that internally motivated children did not seem to need external rewards, nor did the externally motivated children. However, successful performance and explanations of their performance in 35 of the children did show a significant correlation between success and internal motivation. Confidence in their own ability to complete a task successfully was reward enough for these children. Implications were that given a curriculum that fostered self-confidence, kindergarten children would profit greatly.

ENTRANCE AGE

Uphoff, James K., and June Gilmore. "Pupil Age at School Entrance: How Many are Ready for Success?" Educational Leadership 43.1 (1985): 86-90.

Uphoff and Gilmore reported on the school success of children ranging in age from younger than 5 years 3 months to 6 years 3 months at the time they entered kindergarten. In one study of 278 children, 23% had summer birthdays, and 75% of these younger children failed in school. On the other hand, 9% of the 278 had summer birthdays and were held back a year and none of these children failed. Of these two groups, the held-back children had lower IQ scores, but scored higher on the Iowa Test of Basic Skills than did the younger, brighter children. Given a year to mature developmentally, the held-back group was able to stay on-task 2 to 3 times more than the younger ones. There was a definite positive correlation between pupil age and attention span. In another study, the results again showed the older pupils did better in school--60% of the younger girls and 100% of the held-back girls, and 47% of the younger boys and 81% of the held-back boys all made above-average grades. As these children progressed in school, the younger ones who failed had more time but achieved lower scores than the older group. In a pilot study, Uphoff and Gilmore found that 45% of male youth suicides (25 and younger) and 83% of female suicides were summer children. Implications were that too many kindergartens were requiring too much too soon for too many young children and steps had to be taken to remedy this problem.

Maddux, Clebourne D., Don Stacy, and Mary Scott. "School Entry Age in a Group of Gifted Children." Gifted Child Quarterly 25.4 (1981): 180-4.

This study was conducted to determine whether school entry age in gifted children was a significant factor. The group of children in this instance had no screening or testing and were admitted to first grade based only on their chronological age. Family size and birth order were also taken into consideration. There were 188 children selected for an academically gifted program in a large suburban Texas school district where families were mostly affluent and white. Socioeconomic status ratings revealed a predominance at higher social class positions--144 of the children were from the top three positions. Family size data revealed 13 "only" children and 84 from two-child families. Of all the children, 49.5% were first born. The children were divided into two groups, Early Entry and Late Entry. "Results indicated a tendency showing that gifted children entered first grade when they were relatively old." (182) Analyses made when birth order and family size were statistically controlled yielded the same effects. Implications were that early entry was not advised unless more effective early screening and testing programs were used.

AESTHETICS

Feeney, Stephanie, and Eva Moravcik. "A Thing of Beauty: Aesthetic Development in Young Children." Young Children 42.6 (1987): 7-15.

"According to John Dewey the task of education was to endow ordinary human experience with intellectual, moral, and aesthetic significance." The authors described ways in which the aesthetic development of young children could be enhanced. "Aesthetics was defined for this purpose as the love of beauty, criteria for judging beauty and individual taste along with the capacity to perceive, respond and be sensitive to the natural environment and to human creations." Observations of early childhood classrooms and consumer goods designed for young children were an integral part of this study. Aesthetic experiences were beneficial to young children. Beauty in nature fascinated them. They enjoyed creating, looking at, and talking about art. First art experiences were mostly sensory but later on children were concerned with the effects of their work on others. Two views of aesthetic development for early childhood were discussed. "One focused on children creating (in clay, paint or other media) and the expression of feelings. The other focused on exposing children to the work of fine artists to enhance understanding and appreciaton. "Artistic creation accompanied the second one also. Appropriate early exposure to fine arts provided children with inspiration, enjoyment and a sense of possibility." The influences of the art in their environment was seen in children's appreciation and the products they created. Implications were for teachers to be facilitators by supporting children's aesthetic development in everyday experiences.

Andress, Barbara. "Toward an Integrated Developmental Theory for Early Childhood Music Education." Council for Research in Music Education Bulletin 86 (1986): 10-17.

Music educators were concerned that early childhood programs provide a meaningful musical experience. Goals were for "developing positive attitudes toward music, better understandings, and greater skills in expressing music". Age appropriateness was a key issue in order to provide learning experiences suited to the children's developmental stage. Musical behaviors and children's total growth patterns were investigated. Piagetian cognitive development theory provided information for selection and planning of appropriate music materials and activities. Self-teaching manipulative materials designed for exploratory play provided success and enjoyment in musical activities for young children. Music programs were planned keeping in mind the children's progression from solitary to associative and finally cooperative play. Language development was also a consideration for music educators of young children. Songs for kindergarten children needed to be simple and the literature on a topic that interested them and was meaningful to them. Implications were for music educators to provide age-appropriate materials for early childhood teachers.

Gilbert, Janet P. "Motoric Music Skill Development in Young Children: A Longitudinal Investigation." Psychology of Music 9.1 (1981): 21-24.

This research examined the development of motor skills used in a musical context. Participation in musical activities at the kindergarten level often required active movement. Motor skill development had a decided influence on children's success and enjoyment in musical activities. "In a study of 808 subjects, ages 3 through 6, Gilbert noted significant age related improvement on the Motoric Music Skills Test." Motoric Music skill was defined as facility in the motor performance of specific musical tasks. "Gilbert randomly selected 87 children for further investigation." He found that motor skills involved in musical performance did improve with age. The 4 and 5 year olds made the greatest gains in the one year's time between initial and posttesting. Implications were for early childhood educators to plan activities that would enhance development of motor skills in music activities. Exposure to music experiences at the kindergarten level provided aesthetic as well as rhythmic and motor skill benefits.

PLAY

McNamee, Gillian Dowley. "The Meaning and Function of Early Childhood Play." Resources in Education, March, 1983. ED 227-952.

The main purpose of this paper was to explain the importance of play in the lives of young children. McNamee identified six major functions of play: "(1) as a means of survival; (2) as fundamental in cognitive learning and language development; (3) as fostering problem solving and abstract thinking; (4) as helping children in mastering and controlling expression of their feelings; (5) as promoting friendships and emotional contact with peers and adults; and (6) as a means of sex role identification." He also emphasized the importance of adults to guide children's play by providing role models, by approving and fostering play activities, and by providing protecting supervision and sometimes instruction. He concluded that children's development in both affective and cognitive areas was fostered through opportunities to play.

Hertz, Rae. "A Program of Curriculum Oriented Directed Play to Enhance Developmental Maturity in Kindergarten Children." Resources in Education, 1984. ED 254-330.

This program was designed to observe the play experiences of 20 Florida kindergarten children and to show how play affected behavioral growth. For children whose developmental age was younger than their chronological age of 5, the goal was to try to increase each child's maturity in at least one area by 80%. For a 7 week period, teachers directed these children in different methods of interaction at play centers in the classroom, 2 or 3 times a week. At the end of the program, parents, along with teachers and aides rated the children with a 85-90% success rate of behavioral growth on at least one item. This program of teacher directed socio-dramatic play did indeed advance the maturity of the children involved. It also helped to reduce behavior problems in those who were developmentally younger and just "acting their age". Overall, the environmental quality of the whole kindergarten program was improved. The interactions between teacher and child and between peers helped them learn socialization skills through play. When 5 year old children who were immature developmentally were confronted with a curriculum planned for "typical" 5 year olds, they were frustrated and disruptive. Hertz found that these behaviors were more typical of 4 to 4 1/2 year olds than 5 year olds who were judged to be discipline problems. One major conclusion was that these developmentally younger children were not ready for abstract paper and pencil tasks.

Connolly, Jennifer A. and Anna-Beth Doyle. "Relation of Social Fantasy Play to Social Competence in Preschoolers." Developmental Psychology 20.5 (1984): 797-806.

This study was conducted to consider how play might affect the development of social competence in young children. Ninety-one children (55 boys and 36 girls) were involved in the study. The ages ranged from 4 to almost 6 years old. In each of 3 different day-care centers, 40 one-minute observations of a free-play time were recorded. Complex measures were designed to evaluate interaction with peers and materials, pretend versus literal play, verbal and nonverbal aspects, peer-popularity, role-playing, and positive or negative social activity -- just to name a few of the items considered. Although fantasy play occurred less frequently than literal play, scores indicated that fantasy play does enhance the development of social skills in young children. Those children who engaged in fantasy play received higher social skill ratings from their teachers and were more likely to be sought after as playmates with their peers. Social competence was promoted through the longer, more positive and group involvement that occurred during fantasy play.

Gallegos, Margaret, "Learning Academic Skills Through Play." Resources in Education, January, 1983. ED 225-690.

There were two main purposes of this study: (1) to find a relationship between play and academic achievement, and (2) to compare a program including play with a program of direct teacher instruction. There were 48 students tested, 24 kindergarten and 24 preschool, all randomly selected from four different classrooms. One half of the students attended a program with emphasis on learning through play activities; the other half participated in a program in which direct teacher instruction was emphasized. The Brigance Diagnostic Inventory of Basic Skills was administered in a pretest and posttest situation to all subjects. Academic readiness skills were assessed. The play group scored higher than the direct instruction group on 13 out of 14 skill sections. In another 16 skills, the play group showed increased growth over the direct instruction group in 11 skills. Both groups attained mastery in almost all of the skill areas tested, but the additional gains made by the play group implied that including play activities in the kindergarten or preschool curriculum made a significant difference in achievement.

Buescher, Thomas M. "Language as Play: A Case for Playfulness in Language Arts for Gifted Children." Language Arts 56.1 (1979): 16-20.

In recent years "academic enrichment" for gifted children had replaced playful learning. The author described the importance of play in language arts learning in gifted children. "Play with a purpose" was in line with Piaget's view of children's learning. Play was valued by the player with no expectation of external rewards. It required active participation and was the choice of the player, not a directive from another. Play produced a better understanding of the world of the player and the people and things that are a part of that world. Play was not limited by time or objectives. There was no "right" or "wrong" way to play. Thinking appeared to be enhanced by play. Playfulness with language helped children discover phonetic word rules and proper sentence structure. Since this discovery came about through their own actions the resulting learning was more meaningful to them. Playful, free, and imaginative use of symbols and language enhanced children's abilities in language arts. Teachers who had the most influence on growth and learning of their students were those who knew how to "play" themselves in the learning process. Implications were that for gifted children, playfulness in language arts was a most viable mode for learning.

SUMMARY

In three separate articles Elkind warned against placing formal academic demands on young children before they were developmentally mature enough to handle them successfully. His judgments were based on several years of psychological observations dealing with children who were unable to meet such requirements. Undue stress and failure at the kindergarten level produced lifelong learning problems. (Elkind 1986a, 1986b, 1988) Sava (1986) and Katz (1986) concurred with Elkind that young children learn differently than older children. Following Piagetian theory, they argued that kindergarten children learn best through active manipulation of their environment - an enviroment which must be rich and varied but within their developmental range. Elkind, Sava, and Katz all agreed that early childhood education as reflected in today's kindergarten practices was not always appropriate in spite of what is known to be true about learning at this level. Too many children were being put at risk of failure -- for what purpose?

Gardner's survey in 1986 reflected the same idea - that what research had revealed was largely being ignored in actual programs all across the country. Socialization was a key component as well as language development. Developmentally focused programs ranked near the bottom. Did this reveal a lack of understanding on the part of those surveyed as to just what "developmental" meant?

Diamond (1983) and DiPasquale (1980) raised the issue of birthdate and how that might effect young children's success in school. They emphasized the difference between chronological age and developmental age and what

implications this had on kindergarten program design. They found a definite trend toward more learning difficulties in children who were younger. Diamond also noted the dangers of mislabeling these children too early.

Developmental differences that were revealed in initial screening tests were not changed by remediation for basic skills in the Glen Cove program. (Pipitone 1986) The children were obviously not ready for "skill" learning. Instead of forcing the children to "fit" the program, the program should have been designed to "fit" the children's developmental needs. Morado (1987) also noticed increasing numbers of children with developmental differences who were unable to "fit" into the regular kindergarten curriculum which had an academic focus. Teachers' expectations were influenced by the labelling of these children as "not ready".

Kindergarteners' self-esteem and self-concept also reflected developmental differences. (Brinthaupt and Lipka 1985) This influenced classroom behavior and had to be considered in planning learning experiences that were appropriate for the levels of development represented by the children in the program. Children of kindergarten age were able to expand their learning of number concepts when tasks were "matched" to their developmental levels. (Miller and Gelman 1982) Too much, too soon was setting them up for possible failure. The importance of meeting the developmental differences was undeniable.

In the area of cognitive development, children of kindergarten age had limited understanding and lack of experiences which determined their

abilities in task performance as well as their preferences. (Bornstein and Stiles-Davis 1984; Nisan and Koriat 1984) Accuracy and higher level thinking skills were enhanced by carefully designed interactions that met the children at their own developmental level and encouraged them to go on from there.

Attention span also followed a developmental pattern. (Day and Drake 1986; Stallings, Johnson, and Goodman 1986) The Stallings study revealed a wide range of developmental levels within the kindergarten level. Day and Drake found that the most effective programs for meeting the developmental capabilities of the children enrolled were those that offered choices of learning centers where children could experience success at their own particular level. Teacher directed instruction and seatwork activities were less desirable.

Literacy learning activities were also found to be influenced by developmental levels in kindergarten - aged children. Barnhart and Sulzby (1986) found that writing performance developed in a variety of ways independent of other areas of development. Crenshaw (1985) also determined that each child progressed at their own rate. Both studies observed growth ranging from scribbling to conventional spellings. Crenshaw concluded that peer influence was a most important factor.

High academic demands placed on kindergarten children today was the most inappropriate practice of all considered. Shepard and Smith (1988) found a definite downward shift in grade level expectations. Many of these demands came from uninformed parents as to what kinds of practices were developmentally appropriate for their children. Raising the entrance age

was discriminatory. Poor screening practices and mislabelling were also detrimental. Too many children were at risk of failure.

Uphoff and Gilmore's study (1985) revealed a positive correlation between pupil age and attention span. Children with summer birthdays had lower scores and were more prone to failure. Chronological age at school entrance was also a significant factor in Maddux, Stacy, and Scott's 1981 analysis of gifted children. There were more older children who were considered "gifted" than younger.

Another of the worst areas of inappropriate practices was substantiated in studies by Meisels; Thurlow, O'Sullivan, and Ysseldyke; and Cadman. In Meisel's 1986 examination of testing practices for 4 and 5 year olds, he found gross misuse of instruments as well as poor judgment by administrators on assessment purposes. Widespread inconsistency in special education screening and a lack of valid instruments yielded questionable decision - making practices in a Minnesota study. (Thurlow, O'Sullivan and Ysseldyke 1986) Cadman et al. (1984) examined the Denver Developmental Screening Test and found it was too limited as well as inappropriate. Teachers' ratings were a more reliable assessment for kindergarten learning problems. Meisels (1987) found mislabelling practices as a result of inappropriate use of developmental screening and readiness testing. He concluded that the Gesell tests were of questionable validity and in danger of denying children's educational rights.

Cognitive development in kindergarten - aged children is a gradual process. Clark (1983) found that children were unable to complete a task successfully if that task was beyond their developmental level. When tasks

were "matched" to their cognitive level, growth was influenced. Increasing the complexity of tasks only served to frustrate kindergarten children who were not developmentally advanced enough to perform what was required. (Offenbach, Gruen, and Caskey 1984) In the Dalenberg study of developmental differences in motivation, even the researchers' questions were too complicated for the kindergarten children. Explanations and interpretations were beyond their developmental capability. Inferences that the children were asked to make were beyond their understanding. (Dalenberg, Bierman, and Furman 1984)

Computer technology in the kindergarten was implemented by the Hungate study (1982). Although the computer - assisted instruction yielded some favorable results, the non-computer group scored higher on a standardized test measuring some of the same concepts. Grover (1986) determined that software design did not always address the developmental abilities of young children. Perceptual weaknesses and learning styles were of major concern in kindergarten children.

Larrick (1987) cited illiteracy statistics to emphasize the lack of sound reading programs in early childhood. Phonics and decoding with skill and drill workbook practice had not been successful. Basal readers and activity sheets did no better. The implementation of a children's literature-based program with language experience worked quite well as a foundation for reading. Willert and Kamii (1985) observed how children developed their own knowledge of reading without direct instruction from the teacher with worksheets and phonics drills. Peer interaction was encouraged rather than heavy doses of adult dictation. Direct instruction

seemed to undermine self-confidence and encourage dependence on adults. Curiosity and self-motivation were hindered by direct teaching.

As for remedies to alleviate some of the inappropriate practices, several studies concentrated on reasons why these problems existed. Children entering kindergarten came from so many different settings, that one narrowly defined curriculum could not possibly meet all their developmental needs. Parental demands varied as well. Extensive testing programs were being instituted all over the country with questionable results. (Pipho 1988) Although programs across the United States had a great deal of variance, Robinson (1987) discovered five major trends in an overview. Increase in the number of programs; more local funding and control; better prepared early childhood teachers; higher enrollment; and increasing numbers of compulsory programs were found. With greater interest in the area of early childhood education, several policy options were identified by Schweinhart, Koshel and Bridgman. (1987) Entrance age, eligibility, implementation responsibility, and type of program were all taken into consideration. Money was always an overriding issue. McConnell and Tesch (1986) compared the pros and cons of different scheduling options. Full-day, half-day, and full-day alternate day programs were observed. All three programs had advantages and disadvantages and no significant differences were found in the study. Children from different socioeconomic levels made gains in each type of schedule, although no one program was determined to be better than the other two. Local administrators had to decide which schedule best suited the needs of the population they served. Gersten and Keating (1987) analyzed the long-term

effects of direct instruction in kindergarten. While initial gains were made, later performance declined indicating a possible Hawthorne effect. In reporting on an ungraded primary program, Connell did find significant gains when compared with a traditional approach. (Connell 1987)

In the area of cognitive development, May and Welch (1985), Danner and Lonky (1981) and Epstein (1981) all agreed that kindergarten programs, effectively designed, with an understanding of Piagetian theory, could be designed to meet specific needs of individuals as well as groups of young children. Both the May and the Danner reports indicated the importance of heteronomous groupings where children with learning difficulties had role models. Epstein reiterated the concern of the inappropriateness of age-grading. He also found signficant correlations between brain growth stages and increasing cognitive levels. Tolor and Tolor (1982) determined that remedial training did result in significant gains in performance and accuracy indicating cognitive growth.

Literacy development was the focus of studies by Nurss and Hough (1985), and Fields and Hillstead (1986). Oral language was enhanced by teacher modeling and careful program design in tune with the developmental needs of the children. Early writing development provided a sound basis for beginning readers. (Fields and Hillstead, 1986)

Alternative placement had received much attention in recent years. The Gesell Institute promoted a readiness or developmental placement program for children who appeared to be "not ready". (Gesell 1988) Junior Kindergarten in a Virginia study was another answer to the problem of meeting developmental needs successfully. (Galloway and George 1986)

The most improvements were made in the classes where "junior" kindergartners had "regular" kindergartners as role models. Results from Leinhardt (1980) and Gredler (1984) did not support the viability of "transition" programs. Isolating unready children was not as successful as placing these children in regular programs with more appropriate individualized instruction.

Shepard and Smith (1986) (1987), Kaufman and Kaufman (1972), and May and Welch (1984) all agreed that kindergarten retention was not a viable alternative. Shepard and Smith (1986) found that by third and fourth grade there were no significant differences. The Kaufman study validated a test composed from Gesell's and Piaget's tasks for predicting first grade achievement. Both had a significant correlation with the Stanford Achievement Test administered one year later. Shepard and Smith (1987) also found that there were no significant differences in children who had been retained and those who were not in achievement or adjustment. The retainees often showed a poorer attitude towards school and learning. May and Welch (1984) determined that retention would not make much difference for the children they observed. The most benefits were gained by those children who were recommended but not retained.

Parent concerns are of vital importance in addressing inappropriate practices. Parental involvement is a critical issue in the preparation of a child for learning in a school setting. Parents revealed their ignorance about developmentally appropriate practices by some of their questions. Once informed, they were more able to accept less formal programs. (Simmons and Brewer 1985) Webster and Wood (1986) conducted a parent study

that revealed a desire for both academic and developmental components. Katz (1981) emphasized the importance of a strong parent education program as mutual support for the benefit of the children.

To achieve the highest benefits for the most children in a kindergarten program, autonomy was the main goal described by Piaget. (Kamii 1984) Active involvement with their environment and peers promoted this concept. Bridging the gap between home and school, meeting their present developmental needs, and building a foundation for future learning were identified as guiding principles for an appropriate kindergarten program. (Hill 1987) Being fully aware of the developmental changes in kindergarten children gave educators a stronger basis for designing appropriate curricula. (White 1970) Opportunities for active learning through problem solving reinforced Piagetian theory that children learned best through their own experiences as opposed to academic learning where skills are taught. (Goffin and Tull 1985) Children in kindergarten were learning social concepts through all of the other activities they experienced. (Stanley, Charlesworth, and Linquest 1985) Socialization was always a key element in a developmentally appropriate program. The use of a valid multifactored assessment such as the Battelle Development Inventory was recommended. (Guidubaldi and Perry 1984) Observational assessment was found to be more reliable than test data in some instances. In judging the effectiveness of kindergarten teachers, the ultimate goal was determined to be what is best for the children. (Feeney and Chun 1985) Teachers needed to design learning experiences that would foster social cooperation, self-confidence and autonomy. (Honig 1985)

Self-motivation came easier for kindergarten children when programs were specifically designed to meet their developmental needs and interests. (Gottfried 1983) Burns et al. (1985) found a significant correlation between successful performance and self-motivation in kindergarteners. Fostering self-confidence would benefit all children from all levels, socioeconomic as well as developmental.

Reading instruction in kindergarten was the focus of much inquiry. The International Reading Association promoted literacy development through language experience and immersion in children's literature. Roney's study (1984) clearly supported this view. Broadening a child's background of experience would give a child more relationships upon which to build when he is beginning to read. Sulzby (1985) found that important learnings for beginning to read were going on even before formal reading instruction was begun. The more storybooks or any other good children's literature to which children were exposed enhanced their development in language as well as other areas.

Aesthetics was an area sometimes overlooked by early childhood educators. Young children needed to have experiences with beautiful things to make their development more complete. Expressing their feelings through creating and fine art appreciation were facilitated and supported. (Feeney and Moravcik 1987) Musical experiences designed to meet the kindergartners' developmental levels based on Piagetian theory gave another aesthetic component. (Andress 1986) Movement activities combined with music addressed the area of motor skill development. (Gilbert 1981)

Early childhood play was a major part of developmentally appropriate

practices. McNamee (1983) concluded that children's development in both affective and cognitive areas was fostered through opportunities to play. In Hertz's study (1984), play experiences had a direct influence on developmental growth and improved socialization skills. Connolly and Doyle (1984) found that social fantasy play promoted social competence in kindergarten-aged children. In a program that emphasized play activities, significant gains were made in achievement. (Gallegos 1983) Language development in a group of gifted children was enhanced through playful learning activities. (Buescher 1979) "Play with a purpose" was in line with Piaget's view of how children learned most effectively.

CONCLUSIONS

Too many children in today's kindergartens are being categorized as failures as a direct result of inappropriate practices. Children come to kindergarten with a broad range of developmental levels. It is the obligation and challenge of early childhood educators to provide a program based on the individual child's needs and in tune with his or her development. In such a program, children work at whatever developmental level they are capable of achieving successfully. All children need to be evaluated with appropriate assessment instruments and observed to see where they are developmentally. This gives the kindergarten teacher important diagnostic information that guides the program design.

Quality kindergarten programs support a child's social, emotional, and physical needs as well as cognitive needs. These needs are all intertwined and success in one area is dependent on success in another. They are not mutually exclusive. Offering developmentally appropriate kindergarten programs produces long-term effects on positive social behaviors as well as intellectual achievement.

Children of kindergarten age are naturally motivated to learn. They learn best when they are able to choose some of their own activities. These activities must be based on what kinds of things interest them. Learning in this way is much more meaningful to them than direct instruction from a teacher. It is their "own".

Developmentally appropriate practices include mutual respect and trust between the teacher and the children. Peer interaction, learning by doing and positive self-concept development are all emphasized. Exploration,

discovery and experimentation with hands-on materials are key components. A kindergarten program should allow for each child to grow-emotionally, mentally, and physically - if it is going to be beneficial. Optimal results for the greatest number of children should be the ultimate goal.

RECOMMENDATIONS

It is recommended that:

1. Primary programs be developed to serve children from kindergarten through grade 3.
2. These programs should be child-centered and not curriculum centered.
3. These programs should be ungraded - possible age groupings of 4-5-6, 5-6-7, 6-7-8, or 7-8-9.
4. Parent involvement should be required.
5. Children may complete the program in 3, 4, or 5 years.
6. Curriculum design should follow developmentally appropriate practices.

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NOTE: The issues of the two following journals are devoted entirely to Early Childhood Education:

Educational Leadership - Volume 44, Number 3, November 1986 focuses on "The Young Child at School."

Principal - Volume 64, Number 5, May 1985 and Volume 67, Number 5, May 1988 focus on "Early Childhood Education".